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ABSTRACT

The first part of this guide describes how kindergarten children learn and develop and how teachers can enhance children's intellectual, physical, and social development in the context of their activity in a prepared, play-based environment. Topics addressed include physical development, sensory awareness, motor skills, creative movement, skilled actions with others, self-care, social-emotional development, self and others, rules and routines, intellectual development, cognitive processes and abilities, basic concepts and logical thinking, reading and writing, and investigation. The second part describes how to create the special environment, how to organize space, make a schedule, observe, plan activities and trips, use materials, and evaluate the program. Attention is given to organizing space in the classroom; freedom to move in the classroom; playgrounds and gyms; and materials such as water, sand, clay, playdough, painting equipment, fingerpaint, collage, blocks, and wood. The third part provides a few basic resources for setting up the classroom; these include floor plans and lists of equipment, books, records, and activities. (RH)

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Young Children Learning

A Teacher's Guide to Kindergarten

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New Brunswick
Department of Education

YOUNG CHILDREN LEARNING

A Teacher's Guide to Kindergarten

By the Early Childhood Consultants of the
New Brunswick Department of Education
in collaboration with the members of
the Kindergarten Curriculum Advisory Committee

PS 015083

Fredericton, New Brunswick
1985

ISBN # 0-88839-646-X

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To The Teacher

We have made some assumptions in preparing this curriculum. We assume that you are intelligent and resourceful, that you have had some teaching experience and that, through your experience and education, you have gained an understanding of the importance of play and direct experience for young children. We are assuming, too, that the children bring to school with them a curriculum of their own, contained in their curiosity about themselves, each other and the world around them, contained in the eager energy of their bodies, their propensity to explore, be active, and seek friendship, in short, the curriculum of growth.

Because of these assumptions, we have tried to avoid writing in recipe fashion. What we have done is to explore with you the givens of your situation, the five-year-olds you will be teaching (and who will be teaching you), the materials you will have available, and the community and natural resources beyond the classroom. We have suggested how you can encourage and extend the children's tentative inquiries, how you can deepen their understanding and how you can provide an environment, physical, intellectual and emotional, that nurtures their growth. We have tried to integrate the 'why' of teaching with the 'how'.

Observation is central to the teaching process we describe here. Careful observation will teach you about the children and will guide you in your planning. Throughout the text you will find references to observation, your own and the children's; a fuller and more specific discussion of observation and its function in teaching can be found in *Observation and Evaluation* and in *Planning*.

The heart of the program is play. At times we use other words to describe children's play activity — work, manipulation, investigation, practice — because all these elements are involved. We take children's play very seriously. Play is activity voluntarily entered into (though often presented by someone else, like you). The playing child is motivated from within, his own curiosity drives him, learning is a pleasure. If you honour play you will lovingly and intelligently prepare the environment, you will listen and talk with the children and build upon their ideas. You will give them time to follow their ideas where they lead.

We believe that, if you do this, the development we describe in Part I will occur. Language develops because you converse with children and help them play with rhymes, funny sounds, new and delicious words. Responsibility develops because you give children time to linger seriously — playfully — over their clean-up chores. Aesthetic standards are developed because the child has the chance to make a building, take it down and build it up again until he gets it just the way he wants it.

Most children will come into school already playing, but they can get better at it, more skilled in their actions, more flexible in their thinking, capable of more sustained involvement.

Some of the activity in kindergarten, drawing, going on field trips, examining the natural world, painting, tending animals or listening to stories, cannot be as clearly and definitively labelled play as is the game of pretend in the house centre. The deeply absorbed child may not know whether she is working or playing. But the important qualities of play, intrinsic motivation, involvement and pleasure, are part of these activities and are crucial to a good kindergarten.

OBJECTIVES OF THE KINDERGARTEN PROGRAM

Our goal for kindergarten is to help the children develop their powers as fully as possible. Their kindergarten experience should contribute to their physical, intellectual, social and emotional development. We hope that they will emerge from kindergarten with

- *undiminished curiosity, eager not only to explore but to understand,*
- *enhanced communicative powers, able to express and exchange ideas, feelings and experience in a variety of ways,*
- *a new store of personally relevant knowledge and abilities,*
- *a growing capacity to focus attention, concentrate and persevere,*

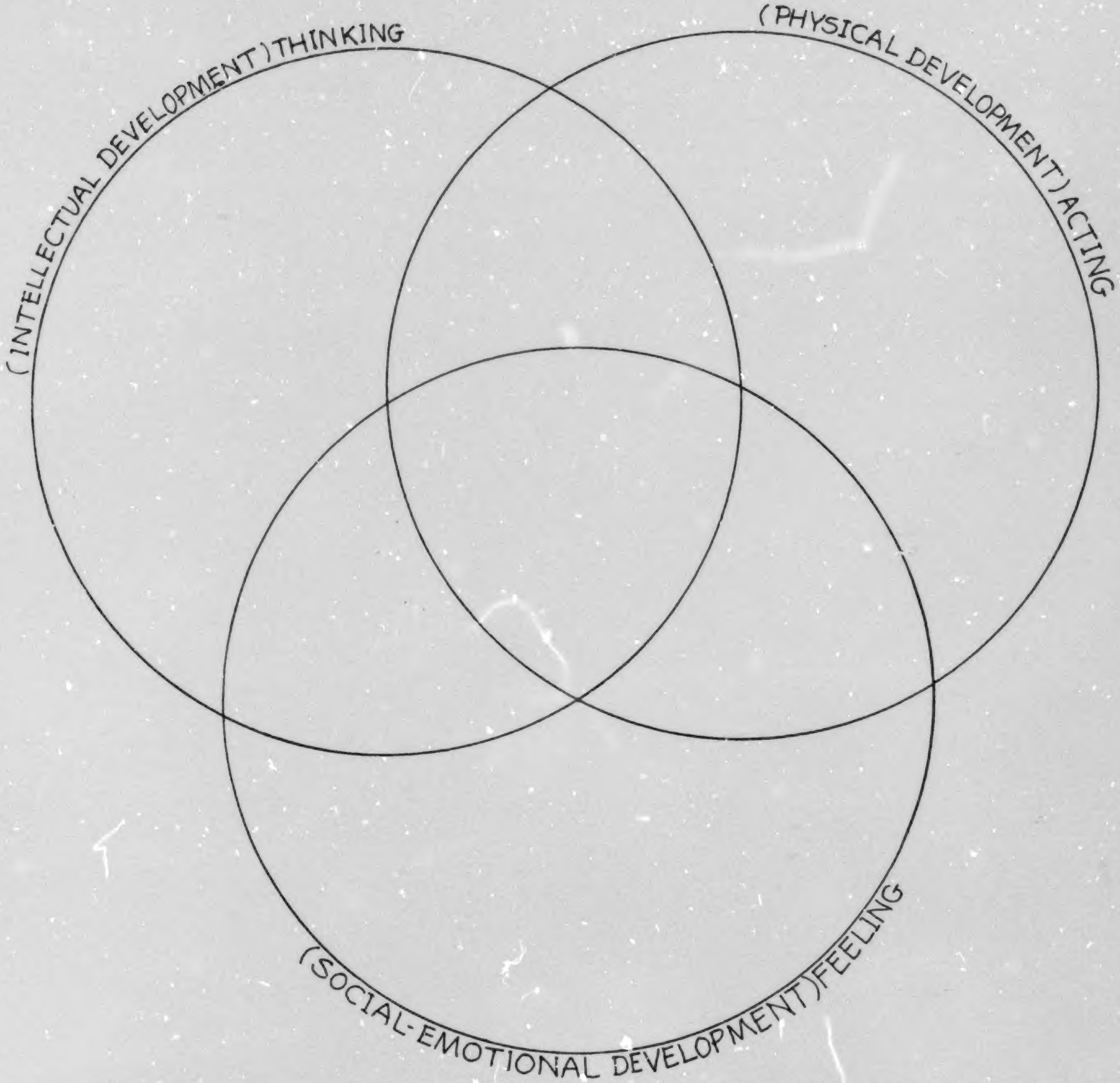
and finally,

- *increased confidence and self-esteem.*

Organization of the Guide

This curriculum guide is arranged in three parts. In Part I we describe how kindergarten children learn and develop and how you can enhance their intellectual, physical and social development in the context of their activity in a prepared, play-based environment. In Part II we describe in more detail how to create this special environment, how to organize space, observe, plan activities and trips, use materials and evaluate the program. Part III is a resource section, containing such items as book lists, recipes, songs and poems.

The loose-leaf format was chosen for ease of access and cross referencing. We hope that you will take advantage of this format to insert your own notes throughout.


(INTELLECTUAL DEVELOPMENT) THINKING
(PHYSICAL DEVELOPMENT) ACTING
(SOCIAL-EMOTIONAL DEVELOPMENT) FEELING

Development: An Organizational Diagram

It is our intention to define the ingredients of positive development specifically enough to give direction to program methodology and content yet broadly enough to encourage diversity.

The accompanying diagram* represents three areas of growth and development: intellectual, social-emotional and physical, with three interlocking circles. The child's actual experience in kindergarten is integrated; thinking, moving and feeling are all involved in every part of the curriculum. The linking of the three circles emphasizes this integration and interdependence of development; we aim to design a balanced program which does not emphasize one aspect of development to the detriment of the others. The central section of the diagram, Communication, Representation and Creative Problem Solving, reflects this orientation: in this section, all three spheres, Thinking, Acting and Feeling, overlap.

We feel strongly that an integrated approach to teaching young children is powerful because it capitalizes upon their natural learning style. Five-year-olds still climb, touch, taste, listen and observe to find out as they did at an earlier age. In finding the best way to climb a tree they must stretch both mind and body. Their desire for friendship is strong, this desire leads children to collaborative play situations which force them to consider others' points of view, an intellectual as well as emotional challenge. Feelings of physical competence contribute to a positive self-image which, in turn, contributes to success in all areas. We see, then, that the three areas of development are interdependent. Development in one sphere influences development in the others even though the different kinds of development do not always proceed at the same rate. The purpose of separating these developmental areas to the extent that we have done so is to facilitate our analysis of the learning/growing process in order to develop a balanced and comprehensive program.

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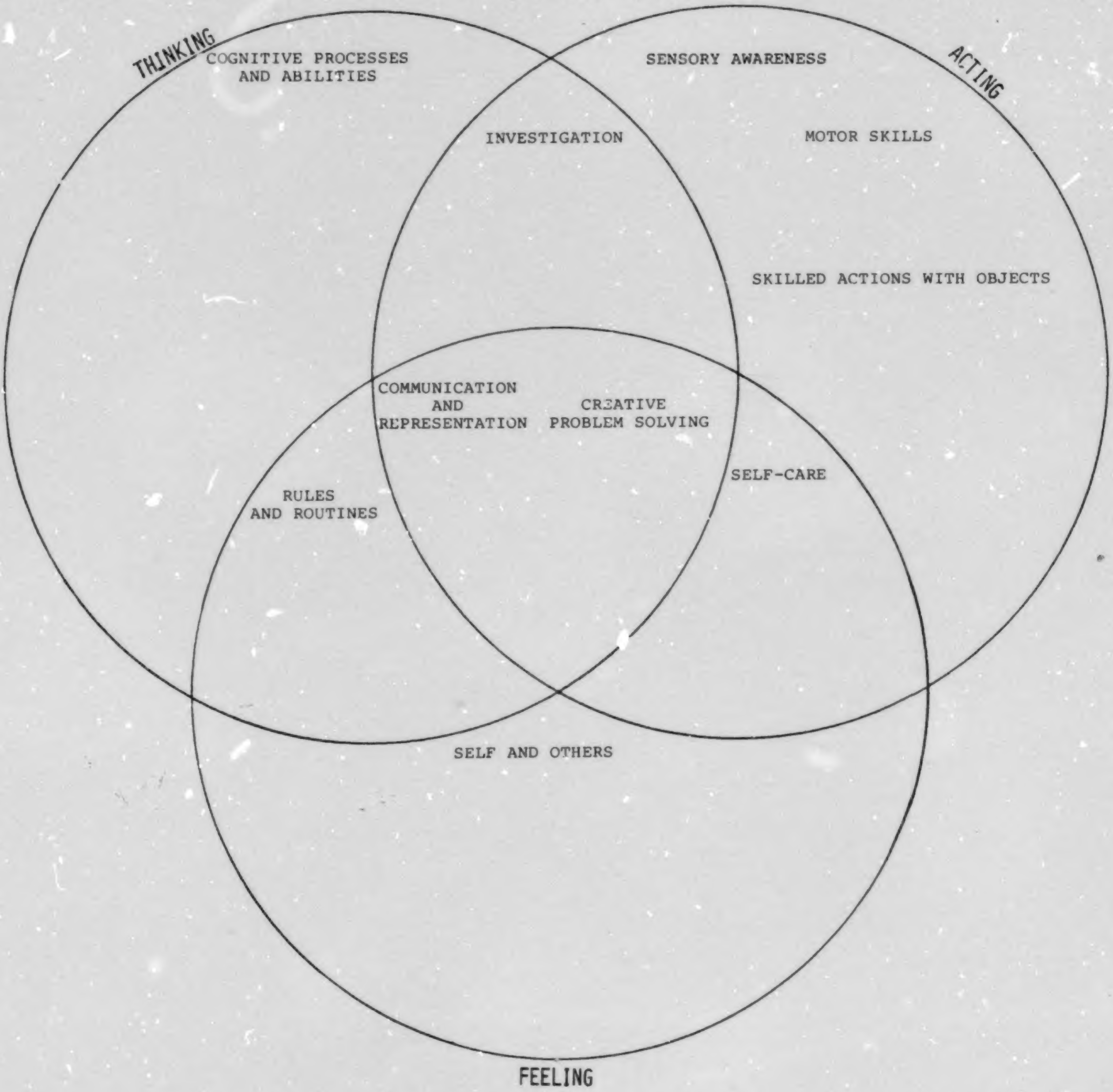
* We are indebted to Helen Gaston for this diagram which we have adapted from hers in *Kindergarten Questions and Answers.*

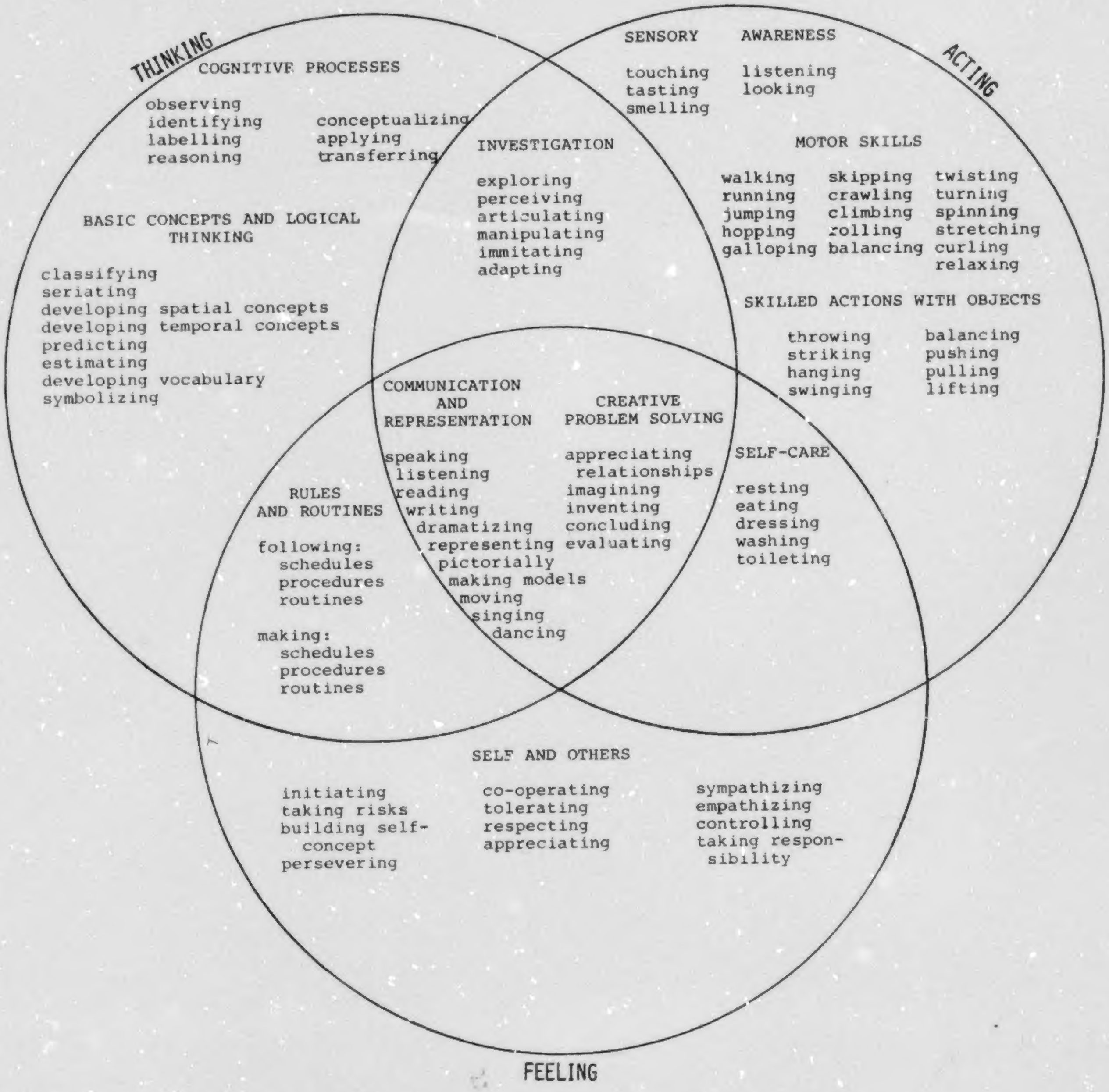
We hope to help the children develop certain abilities, awareness and knowledge which we believe to be crucial to their further learning. We have attempted to describe the components of these attitudes and abilities specifically enough so that our broad aims can be translated into classroom practice. These subcategories are described in our diagram in terms of what children will actually be doing. Some activities, like throwing, will be directly observable, others, like tolerating, can be inferred.


THINKING
COGNITIVE PROCESSES AND ABILITIES
SENSORY AWARENESS
ACTING
INVESTIGATION
MOTOR SKILLS
SKILLED ACTIONS WITH OBJECTS
COMMUNICATION AND REPRESENTATION
CREATIVE PROBLEM SOLVING
SELF-CARE
RULES AND ROUTINES
SELF AND OTHERS
FEELING

We have expressed these aspects of the learning process with verbs rather than nouns in order to emphasize:

- *that the young child learns through activity,*
- *that the curriculum should emphasize process rather than product,*
- *and that children will engage in these processes at different levels of proficiency, depending upon their stages of development.*

We shall begin with physical development and move in clockwise order around the diagram. This order of presentation is not indicative of the relative importance of different developmental areas, nor is it intended to suggest a sequential program: first physical, finally intellectual. Rather, the diagram provides an organizational scheme for describing one aspect of development at a time while keeping the whole child clearly in view.


THINKING
COGNITIVE PROCESSES
observing
identifying
labelling
reasoning
conceptualizing
applying
transferring
BASIC CONCEPTS AND LOGICAL THINKING
classifying
seriating
developing spatial concepts
developing temporal concepts
predicting
estimating
developing vocabulary
symbolizing
ACTING
SENSORY AWARENESS
touching
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manipulating
immitating
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MOTOR SKILLS
walking
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skipping
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climbing
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moving
singing
dancing
CREATIVE PROBLEM SOLVING
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imagining
inventing
concluding
evaluating
SELF-CARE
resting
eating
dressing
washing
toileting
RULES AND ROUTINES
following:
schedules
procedures
routines
making:
schedules
procedures
routines
SELF AND OTHERS
initiating
taking risks
building self-concept
persevering
co-operating
tolerating
respecting
appreciating
sympathizing
empathizing
controlling
taking responsibility
FEELING

PHYSICAL DEVELOPMENT

ENHANCING PHYSICAL DEVELOPMENT

Sensory Awareness

Touching
Tasting and Smelling
Listening
Looking

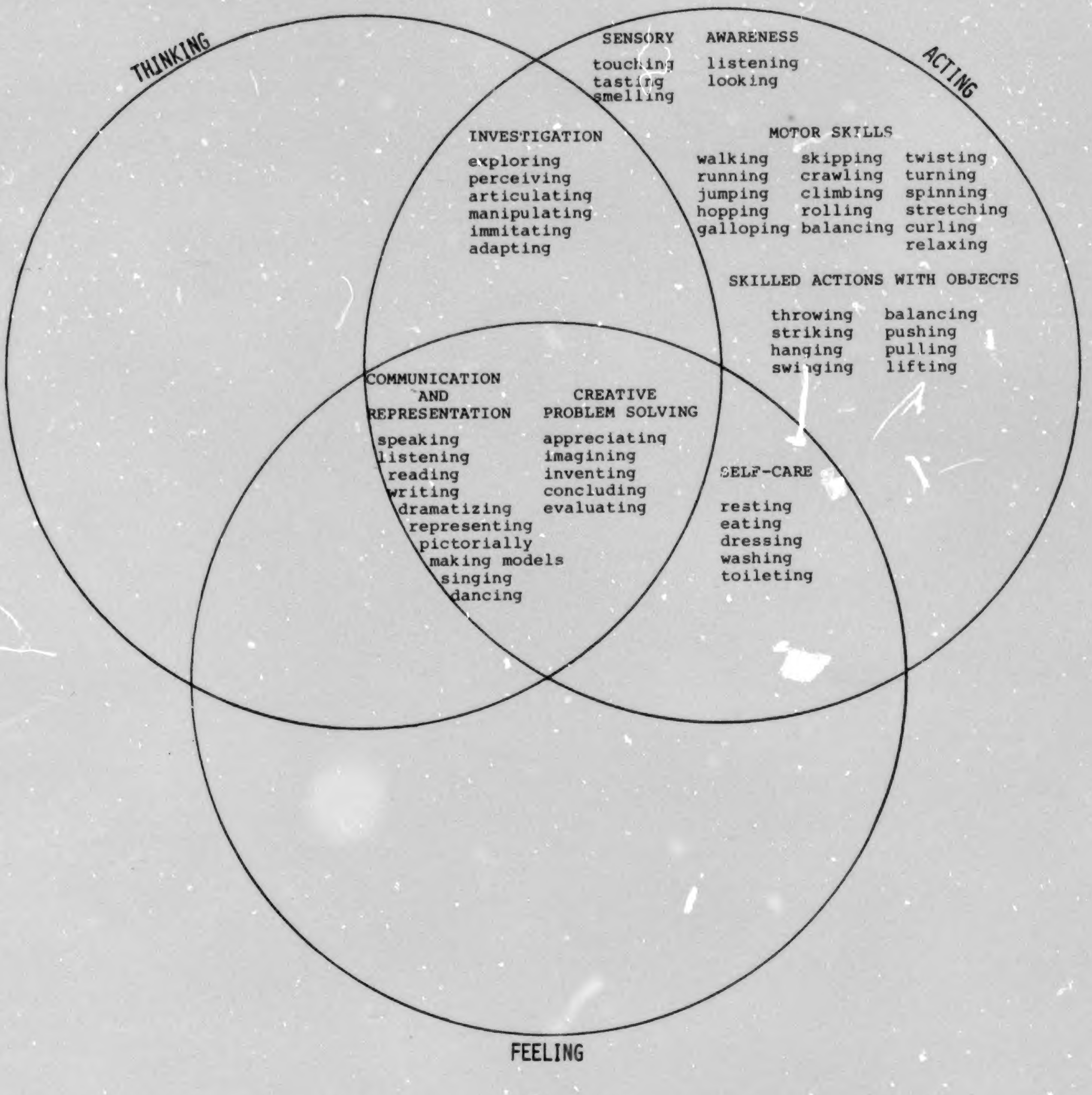
Motor Skills

Walking
Running
Jumping
Hopping
Galloping
Skipping
Crawling
Climbing
Rolling
Balancing
Twisting, Turning & Spinning
Stretching and Curling
Relaxing

Creative Movement

Skilled Actions with Objects

Throwing and Striking
Hanging and Swinging
Balancing
Pushing, Pulling and Lifting


THINKING
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SELF-CARE
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eating
dressing
washing
toileting

Enhancing Physical Development

'But the locus of a young child's confidence is not in his thinking, although he enjoys being clever and knowledgeable. It is in his solar plexus, in his sense of himself as a physically active, feeling, coping being.'
(*Dorothy Cohen,* The Learning Child)

'When we ask children not to move, we should have excellent reasons for doing so. It is stillness we have to justify, not movement.'
(*Susan Isaacs,* The Children We Teach)

Optimum physical development in the kindergarten classroom is fostered in the same way as are intellectual and emotional development, through free participation in an environment rich in challenge and variety. The learning environment has three important parts, the physical environment, the children and the teacher. Each part complements the others.

Freedom to move

Variety of challenge

The physical environment, whether classroom, playground or gymnasium, should allow freedom of movement and offer a variety of specific challenges to children at different levels of ability. The children provide for each other the social and emotional impetus for activity; the themes of their play form a meaningful context, as when, for example, they stack up the outdoor blocks to make a rocket ship or gallop around as escaping horses.

The Teacher's Role

Observe

Modify the environment

The teacher's role is complex and changing. You must be an observer of the children's movement, making note of progress, pleasure or difficulty. At times you modify the physical environment, perhaps by setting up a board across some boxes for jumping and balancing or spreading a tablecloth over the picnic table to make a cosy playhouse. At other times you modify the social environment, joining a game of tag or helping a shy child become involved with a group of engineers in the sand pile. Your approach will sometimes be more directive, as when you teach the children a singing game or provide the rhythmic or thematic stimulus for creative movement.

Evaluate periodically

Your training gives you an idea of typical physical development for children from four to six, while your observation of individual children sensitizes you to their particular interests or special needs. Periodically you will evaluate your program to ensure that it enhances physical health, motor skills, sensory awareness and the expressive/communicative use of movement.

Physical Development in Five-Year-Olds

Five-year-olds seek challenge

By the age of five, most children can walk, run, jump and leap with ease. They seek new challenges for these skills, varying speed and direction and welcoming obstacles like rough terrain. They revel in whole body movement and the exercise of their large muscles. Even children confined to wheelchairs or otherwise limited in their movement capabilities seek, and should be helped, to exercise their limbs to the fullest possible extent.* For five-year-olds, physical activity is often subordinated to a social or imaginative purpose, as when they run fast to put out an imaginary fire or climb to the top of a hill so that they can blast off to the moon.

Variations in Development

There is great variety among five-year-olds in spatial awareness and physical skill. This variety reflects differences in native ability but also in general health and scope for practice. Some children are confident and self-assured, seeking the challenge of height and speed. Others are more cautious by temperament; they need to approach new situations warily and at their own pace. Some children have been unnecessarily limited by well-intentioned caretakers who have discouraged them from taking risks. Some children's physical environment is severely limited by factors beyond their own or their families' control: busy streets, small apartments, crowded or dangerous or nonexistent parks and playgrounds. These children need a richness and variety of movement opportunities to make up for past deficiencies. This does not mean that you should hurry the inexperienced child into activity, but rather that you seek to ensure that his movement experiences at school are pleasant enough to whet his appetite for more. Because of this diversity in development and experience, five-year-olds need a diversified learning environment, one which allows for flexibility and choice. Such diversity can be found in the well equipped and organized classroom, playground or gymnasium as well as in woods, meadows and other natural areas.

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* Please contact an Early Childhood Consultant for more information about working with special needs children.

Group Activities

Allow for individual interpretation

When initiating group activities like singing games, keep them short and select games that allow each child to spend more time participating than waiting. When involving the children in creative dancing or dramatics, allow for individual interpretation and variation. Five-year-olds have a short attention span for group activities of someone else's choosing but they will pursue self-selected tasks with great persistence. They should be given ample periods of time to explore gymnasium apparatus and playground equipment so that they can practise and elaborate skills in ways and at tempos that are individually appropriate.

Learning Through Experience and Example

Opportunity to practise . . .

. . . with older children and

. . . by themselves

Some five-year-olds exhibit immature motor patterns when jumping,skipping, throwing, catching or striking, just as they may use an immature grip with pencil or scissors. These immature patterns improve with age and practice. This means that there must be ample opportunity for practice: regular, scheduled periods for movement, indoors and out. Young children also learn from watching children who are slightly older and more skilled than they. In order to facilitate learning by example it is a good idea to schedule some shared time with primary children in the gymnasium or the playground. The kindergarten children will also need some time by themselves in these places so that they will have the opportunity to lead as well as follow and so that older children do not usurp all the play spaces.

Fine-motor skills

While the children develop strength and agility and co-ordination by climbing, running, leaping, throwing and catching, they should also be developing dexterity and eye-hand co-ordination through a wealth of other activities such as sewing, pouring, fastening dress-up clothes and using small construction toys.

Goals for Physical Development

We have some long-term goals for children's physical development. They should

- be active and enjoy a wide variety of physical activities,
- use all of their senses for functional discrimination and aesthetic enjoyment,
- grow in spatial awareness and kinesthetic judgement,
- develop mature motor patterns for jumping, throwing, striking, etc.,
- develop strength and stamina,
- develop speed and agility,
- learn to move gracefully, effectively and efficiently,
- use their bodies expressively, as in dance or pantomime and
- learn to be pleasant and enthusiastic partners or teammates and good sports.

We know that these goals will not all be realized by every child. We know, too, that they will be attained at different rates by different children. They are, nevertheless, important long-range goals. We also believe that children's present motor activity should be valued as highly as their future prowess.

Footnote: The Classroom, The Playground and *The Gym* in Part II contain additional information on how to plan for a wide range of movement indoors and out.

SENSORY AWARENESS

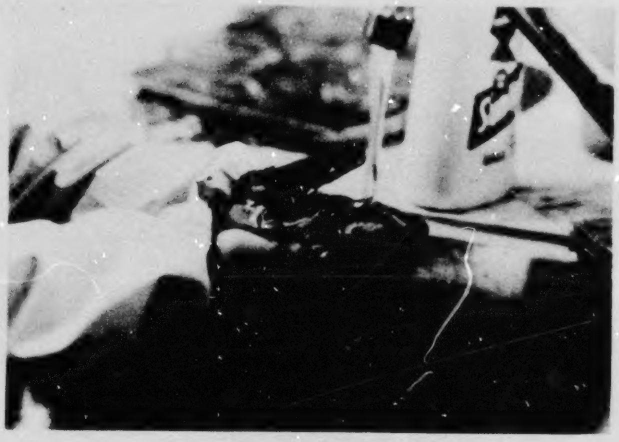
Learning through *the senses, not learning* about *them*

When we speak of sensory awareness, we do not mean that children should learn to identify five senses by name. It is not the concept of the senses so much as their use that we wish to emphasize. From infancy, children have made busy use of their senses to explore the world around them. In kindergarten they continue to concern themselves with those aspects of the world which they can see and touch; it is through their senses that they verify what they learn. The teacher encourages their direct involvement, helping them to become more accurate and discriminating, more aware in the use of their senses.

The learning environment should be set up to please and stimulate the senses. On the other hand, there should be some provision for protection from overstimulation, places for quiet withdrawal from noise and motion.

Observe sensory behaviour

You will observe the children's sensory behaviour, noting such things as problems with sight or hearing or special sensitivity to fragrance or design. You may need to help children find ways to explore things that fascinate yet repel them, as by offering a child a brush for the finger paint he does not want to touch with his hands or suggesting that he smell, rather than taste, a new food. There is a strong sensory component in almost everything that happens in kindergarten. At times, when it seems appropriate, you might make a remark or structure the environment to increase the children's awareness of a particular sensory element. It will be worth your while to take some time and effort to recapture your own sensory awareness.



The near senses are acute in early childhood

Teachers, like most adults, tend to use their far senses, sight and hearing, much more than the near senses, smell, touch and taste. The near senses are acute in children and play a large part in their impressions, a point which an adult can verify by the flood of early childhood memories which are evoked by certain smells. Children are building an important memory bank through their senses. Their memory and understanding of things they have experienced sensorially is impressive, which is why we place such emphasis in kindergarten upon first-hand experience and the manipulation of materials.

The following sections are intended to treat the subject more specifically and concretely in order to give the teacher suggestions for actual practice. These suggestions by no means constitute an exhaustive list. They are intended as a starting point only, for you to supplement from your own experience and imagination.

Touching

The sense of touch is stimulated by having available a rich variety of contrasting textures in the room. In the dress-up corner there can be an oilcloth slicker, denim overalls, a satin gown and a feather boa. Cushions in the reading corner might be velvet, burlap or corduroy. Underfoot, there is the contrast between smooth linoleum and rougher carpet with perhaps one or two soft throw rugs.

Collage

Dancing barefoot

There is a strong tactile component in much of the children's creative work. They explore the cool moistness of clay, the squishiness of paste, the firm smoothness of blocks. Collage becomes as much a tactile as a visual experience when children choose and arrange cotton balls, velvet, feathers, sandpaper, fur and cellophane. Help them to talk about these textures in various ways: preference, softness, tickliness or scratchiness. Children should take off their shoes in the gym, the better to feel their motion through space. Barefoot on the smooth floor, they become more sensitive to the difference between stamp and slide, tiptoe and gallop, feeling as well as hearing how the rhythm changes.

Touch is functional as well as aesthetic. A child must feel the soil in a plant pot to determine whether and how much to water it. He can also be encouraged to test the wheat paste or play dough to see if the texture is just right. Children are sensitive to texture in food: the smoothness of pudding and the crunchiness of carrots. Talk about these contrasts as you eat together.

Natural science

Children touch to investigate the natural world. You can encourage them to feel the difference between grass and sedge, guinea pig's and bunny's fur, birch bark and elm bark. Give them opportunities to effect changes in texture: adding soap to water or using a sieve to separate coarse sand from fine.

Taste and Smell

There are many occasions on which you and the children will direct each other's attention to smells: apples baking, leaves burning, spring mud, the paper mill, snow in the air or lilacs. Children love to talk about what smells and tastes they like or don't like. Their spontaneous reactions can lead to a discussion of favourites, a smelling or tasting centre or perhaps a graph or story about their preferences. It is surprising to many children that their likes and dislikes are individual, that I may like garlic when John despises it, that the fresh lemon that Mary licks with such pleasure makes me shudder.

Teacher as open-minded model

In the way we present such experiences, teachers act as models. We should honour individual differences, showing that we find them normal and interesting. If one encourages a child to try a new food, one must allow her to be unsure or even wax eloquent on its yuckiness. This is all part of trial and error; it is O.K. to like or not to like.

Cooking offers important sensory opportunities

Cooking offers many opportunities for tasting or smelling. Often children enjoy eating foods they've made themselves even when they may have rejected the same food at home, another example of the importance to young children of process. Involving children in preparing snack increases cooking opportunities.

Because eating together is a concrete and sociable experience, it is a developmentally appropriate way to share and explore cultural differences. Parents can be of great assistance to you by bringing in food from different regions for children to sample or, even better, letting them help cook. When children grow their own herbs and radishes for salad, pick apples for sauce or buy flour for bread making, it increases not only their enjoyment, but also their feeling of involvement. Children learn how adults use their senses in a functional way: smelling fruit for ripeness or tasting soup for seasoning. Adults tend to be as concrete and immediate as children in their approach to food, which is one reason it is such a good area for shared experience.*

A place that speaks to the senses

It is pleasant and inspiring to the young investigator to live in a place that speaks to her senses. The alert teacher might leave about sachets of lavender or rose petals, whole sticks of cinnamon, fir pillows or plants with fragrant leaves or flowers. The world we live in sometimes discourages use of the senses. Many regions are bathed in strong, unpleasant industrial odors. Food is often artificially flavoured and rooms artificially scented or deodorized. In kindergarten, therefore, we should give children opportunities to smell and taste things close to their source in the ways described above, lest their senses become dull and undiscriminating.

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* See resource section for more about cooking.

Listening

Sensitivity

There are many ways that children can explore and become more sensitive to sound. They can be encouraged to listen to sounds they might otherwise ignore: the soft drum of rain on the roof, a robin singing, the hum of distant machinery or the hiss of steam in a radiator. A child can listen to (as well as feel) her breathing and the pounding of her heart after strenuous running and dancing. A stethescope enables her to hear still better and to listen to the guinea pig's rapid heartbeat or the teacher's slower one.

Making sounds

One way for children to become more attentive listeners is for them to become serious sound makers. Providing a variety of materials for homemade percussion instruments invites experimentation. Containers with removable lids work well for rattles because children can guess by listening what's inside and then check their guesses by looking. Three such rattles can be ordered from soft to loud (flour, paper clips, pebbles) or pairs of containers can be filled with different kinds of noisemakers (jingle bells, salt, flour, rice, gravel, paper fasteners) to make an auditory matching game.

Children can record their percussion instruments on tape. They might also record their own clapping rhythms or voices and sounds from around the school.

Music

The kindergarten should provide many experiences with music. Children need the opportunity to sing, move to or simply listen to a wide variety of music: folk songs, classical music and jazz as well as music recorded especially for children.

Singing and dancing are favourite kindergarten activities. You should select songs with a strong appeal to young children: clear melody, strong, interesting rhythm, and intriguing words, whether funny or poignant.* It is not necessary that the children understand all the words if the melody speaks to them.

Singing and dancing

You enhance auditory awareness when you encourage some playing around with songs, varying pitch, volume, expression and tempo as Sharon, Lois and Bram do in 'Candyman.' Children also need many opportunities to respond to music with their entire bodies, not always a particular set of movements prescribed by a song or singing game or 'movement' record, but also a free, individual, creative response which is neither wrong nor right but simply expressive. Clapping, stamping, clicking and humming make good accompaniments for dancing: *hearing* their movement makes children more sensitive to its quality.

Purchased percussion instruments of high quality are a valuable addition to the classroom, not only to accompany movement and song, but also to make available for individual exploration. Similarly, the teacher need not always play music for the whole class but should have recorded music available on tape or an easily operated record player for individual listening.

Language

Spoken language forms a special category of sound. Babies learn to produce plausible sounding language before they actually say words. For young children, tone of voice is still at least as important as the verbal message. Kindergarten children are beginning to appreciate the sound of particular words and word patterns and are susceptible to the delights of nonsense verse, rhyme and onomatopoeia. Care should be exercised in the selection of poetry and other literature for children. You should practise reading stories and poems aloud before reading them to the children in order to assure yourself that the language is clear and compelling and that you do it justice. It is good to expose children to other readers as well; older children, parents, grandparents or the principal, for example.

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* See resource section for music books and records.

Looking

Young children's visual awareness, their sense of form, colour, shape and design, can be developed in many ways through the physical environment that surrounds them and through their own activity. On walks and in the classroom they will have opportunities to become more accurate observers. Through creative movement and concrete mapping activities they will develop spatial awareness. Finally, certain games and activities will help develop visual discrimination and memory.

Is our Amaryllis growing?

Attractive environment

Collections

Displays at children's level

The physical environment, the classroom and playground and everything in them, should be visually pleasing as well as functional. A room planned for ease of movement and accessibility of materials can remain relatively uncluttered, with light, moveable tables and stools and low roomy shelves almost the only furniture. This leaves plenty of room and scope for the children's contributions; their creations should be a significant part of the scene. The children can also create displays of various kinds which appeal to the eye: flowers, leaves, shells and other natural objects, art or craft items like pictures, pottery and baskets, or collections of objects of present interest such as wheels of assorted kinds, rose-coloured things, shiny or translucent objects. The arrangement of these collections is a valuable exercise in awareness of colour, form and design. All displays, whether put up by teacher or children, should be within range of children's eye level.

Gardening

In the playground there should be a place to plant bulbs and seedlings, a plot of earth and perhaps also window boxes and tub planters. There are many good reasons that children should do some gardening, not the least being the opportunity to create something beautiful.

Surprises

You may want to bring in items to delight or intrigue the children from time to time, such as picture postcards or tiny sculptures or photographs. They will love coming upon such surprises; finding a tiny picture at eye level is its own reward for the five-year-old detective.

Books

Books for the class library should be selected critically. Illustrations for children's books can be beautiful, so by all means, avoid the sloppy or the cloyingly cute. You can look for Caldecott award winners, ask children's librarians and refer to the list of authors and illustrators in Part III. Children can also learn a great deal from looking through picture books not written specially for them: field guides, photograph collections, illustrated cookbooks, carpentry and gardening books and books on animal care, etc.

Art activities

Painting and collage involve mixing and arranging colour and experimenting with form. Drawing, stitchery and finger painting require the use of line and shape. Clay modelling, junk sculpture, and woodwork involve children in three-dimensional design. All of these art activities also require and support the co-ordination of hand and eye.

Visual discrimination

The art activities described above develop visual discrimination, an awareness of configuration and of similarity and difference between shapes. Play with lotto, puzzles, pegboards and beads also strengthens visual discrimination, as does block building. The block builder must select and arrange blocks of different shapes in a functional and balanced form. When she places a block, stops and stands back to look, her vision, confirmed by touch, tells her whether this arrangement will stand and whether it is pleasing.

A good visual memory is useful for reading and many other things. Games like Concentration, Dominoes, and 'Guess the Missing Object' all develop and refine visual memory.

Observing

In helping them to observe and describe the world around them, you will encourage children to look for repeating patterns and distinctive detail. Magnifying glasses show up such fascinating details as the scales on a goldfish, pollen on a dandelion, the transparent tail of a tadpole or the warp and woof of a fine piece of cloth. Children can look for repeating shapes and patterns in the natural and man-made world: the arrangement of windows or brick design on a building, interlocking gears, the venation of leaves and their placement upon a stem; the list is endless. This kind of close observation is within the young child's ability and feeds both the artist and the scientist within him.

Exploring and mapping

Children learn to locate themselves in space by actually looking and exploring. On walks they look for landmarks and the curves of the path. They explore the room, the school and the playground and represent these places with blocks or in the sand. Their spatial awareness is further enhanced by creative dance in which they explore the parameters of the room, experiment with movement at different levels and change the shape of their bodies. They learn to adapt their own movement to the movement of other bodies through space.

In all these ways, children use looking to inform their doing. Their activity, in turn, deepens their visual awareness.

MOTOR SKILLS

Movement skills are developed in many ways in the kindergarten program: as part of the on-going activity of the classroom and outdoors, through features of the physical environment designed to elicit or challenge certain kinds of movement, and through dance and creative movement sessions during which the teacher helps children become more aware of the quality of their movement.

Movement is essential

Moving in kindergarten is part of problem solving, part of living happily with others, part of keeping healthy. It is an essential part of the young child's education. The dancing child is learning to be more expressive in every way, the child skipping with a partner is learning in her bones and muscles the joys of sharing, and the child galloping to the maple tree gains a new awareness of space by moving through it.

In the following section we will treat different kinds of movement individually, concentrating on how the teacher and the environment can support them. Then we discuss how creative dance can be used to encourage the children's natural movement and to extend their movement repertoire.

Walking

Facilitate practice

Children walk around the classroom from one activity to another or go on walks to places of interest. Since at almost any time some other children are in motion, each child must adapt his movement to the movement of the rest to avoid collisions, which is difficult for some five-year-olds. Walking can be made an intriguing process by making twisting, turning paths to follow in or out of doors. If the path is marked with a narrow strip of tape, children will try to balance along it. Walking thus ceases to be purely functional and becomes interesting in its own right. Outdoors, balance beams, low walls or the edges of the sand box provide the same kind of challenge.

Running

Running requires space and, except as a short interlude of a singing game, for example, usually takes place outside or in the gym-

Encourage the hesitant child

Challenge

nasium. Children need the opportunity to run. It is the kind of vigorous activity that builds health and is innately satisfying. Running is often an important element of outdoor pretend games. You may need to encourage a hesitant or sedentary child by running alongside him. This is often a good way to get children warm and moving on a cold day. In the summer, when children feel too hot to run but become restless and cranky without the exercise, they will delight in running through the cool spray of a sprinkler. Hills and deep sand or snow are challenging to run or walk over and help develop strength and lung capacity, whereas a smooth field or an empty gym offers a different kind of challenge, an invitation to run fast and far. When we give children freedom and encouragement to run in this way we allow them to test their own limits. In so doing they gain, not only fitness, but confidence.

Jumping

Create settings for action

Young children find it easiest to jump downward. If the classroom contains stairs or a platform they will inevitably practise jumping down from it. The playground should offer a multitude of places for children to jump down, across or over. In the autumn they can help rake up a big pile of leaves to jump into. A broad plank set across two sturdy crates, blocks or sawhorses makes an excellent jumping, bouncing surface, as does a truck tire laid on its side. Two lines painted on the gymnasium floor or scratched into the dirt make a creek to jump across. Suspending a ball or balloon from the ceiling or a piece of high equipment invites a child to jump up to get it, extending his entire body. Low hurdles or jump ropes force the child to tuck his legs up high to get clear. These are all important variations on the jumping theme. Safety is best served, not by limiting jumping opportunities but by providing plenty of scope to practise where the landing surface is resilient and cleared of sharp or dangerous obstructions.

Hopping

Games can motivate action

Hopping, which requires balance and strength, also promotes these qualities. Many five-year-olds still find hopping quite difficult. It can be encouraged by playing a simplified version of hopscotch. When you and the children go for a walk or move around the playground, you might suggest that they hop from the swing to the slide, gradually building up distance as their skill increases. This technique can, of course, be used to encourage any kind of locomotion.

Galloping

Building endurance

Galloping is an exhilarating gait for young children. Like running, it demands energy and builds endurance. It is a syncopated, uneven gait like skipping but easier than skipping for most fives to master. Stories about horses, exciting music with the right beat or well-timed teacher suggestions can all inspire galloping.

Skipping

Practice and sharing

Skipping requires a fair degree of balance and co-ordination which makes it difficult for some five-year-olds. Like any skill, it tends to build those qualities it requires so that children gain in balance and co-ordination as their skipping improves. Skipping is an exhilarating way to move; its bouncy motion is a natural accompaniment to high spirits. A child who cannot skip alone can be paired with a partner, either you or another child, whose rhythm and impetus urges the beginner along until he catches on.

Crawling

Crawling is something children enjoy doing, usually when pretending to be babies or animals. Many five-year-olds prefer crawling up the slide to sliding down. Crawling up an inclined plane challenges the child's muscular powers. Planks can become inclined planes when set against packing crates or climbing structures. Crawling down a plank requires balance and judgement. Tunnels are fascinating to many children who seem to delight in the feeling of being enclosed. Light, flexible, fabric covered tunnels can be purchased or built inexpensively. They can be set up to turn or dip, making the crawl path more interesting and challenging. Crawling is a basic movement which most fives have mastered long ago. The centre of gravity is low and the base of support, wide. If you feel that a child is having trouble balancing, you might encourage him to crawl along a plank, thus combining a mode of locomotion about which he feels secure with a more challenging location.

Combine security with challenge

Climbing

Climbing can be planned for to some extent in the classroom if there is enough room for a loft or climber. In the gymnasium and playground a variety of climbing structures should be available, including pieces of equipment like A-frame supports and ladders which can be set up in different ways. There should be some pieces of equipment which the child can move by himself or with the help of a friend. Climbing strengthens muscles and improves agility, motor planning, balance and judgement.

The teacher should never lift a child up to a high place. He will be safer if he can get only as high as he can climb by himself because he can usually climb down from there. You can help a frightened child climb down, coaching in an encouraging way: 'Now this foot (touching it gently) steps down to this rung down here, now your hand down, now your other foot, that's right, *you did it!'* The child thus aided will usually swarm right back up again and climb down himself. Each time he repeats the action he re-experiences the satisfaction of mastering a difficult situation by himself. Plucking him down and setting him on his feet may be faster for the teacher but does nothing for the child.

Mastery is satisfying

Gaining a wider perspective

Climbing to a height gives the young child a feeling of size and power. The world looks different from the top of the jungle gym. It gives the child a wider perspective, shows him things from a different angle, just as hanging by his knees shows him the world from upside down. It is interesting to note how often young children seek out these novel perspectives. It is probably a very important ingredient of their embryonic ability to see another's point of view, a significant cognitive and social advance.

Rolling

Body shape

A grassy hill provides the perfect situation for rolling. Children can also roll on mattresses in the gym. Somersaults or log rolling can be part of an obstacle course sequence or a game of follow-the-leader. In rolling, children learn to tuck and protect their limbs. Rolling helps children see the relationship of body shape to movement efficiency.

Balancing

Balance improves with experience

Balance is basic to movement. Young children often find it difficult to maintain their balance. It is a challenge for them to stand on one foot or come to a sudden stop without toppling. Their balance will improve with experience in climbing, running, hopping, walking and dancing.

Static balance

In the gym you can suggest interesting variations for balancing. Children can freeze into 'statues' by themselves or with another child. Encourage them to experiment with different bases of support: their sides, all fours, two knees, on tiptoe, or on one foot. Or ask them to find 'a different tricky way to balance.'

Twisting, Turning and Spinning

Spatial awareness

Twisting of the body occurs when a child moves in tight quarters, spins or assumes a grotesque or exaggerated position. Encouraging children to twist and bend as part of creative dance will enhance flexibility and awareness of body shape. Running and chasing, moving rapidly through a room or yard filled with other moving bodies, forces children to turn and twist to avoid each other.

Children seek out opportunities for whirling and spinning. Swings should be widely spaced or individually hung so that children can safely play the game they so enjoy: turning around and around until the ropes are twisted, then pushing off the ground so they can experience the whirling sensation as the ropes untwist.

Exploring the sensations of motion

Twirling round on one foot or rolling down a hill induces the same feeling of vertigo. Children will repeat these actions until they are staggering, enjoying and experimenting with the feeling of disequilibrium. Don't stop them out of your own adult feelings of distaste for dizziness but, conversely, don't push the reluctant child into spinning when he dislikes it. There are strong individual preferences.

Stretching and Curling

Children need to stretch

Stretching is part of being a young child. The five-year-old stretches to reach things on high shelves or stretches up tall to compare heights with a playmate. Children need all kinds of stretching in kindergarten, including good, hard running that stretches the legs to their furthest extent. Stretching keeps the body limber. Even young children can lose their natural flexibility if they lead too sedentary a life.

Contrast curling and stretching

In creative dance, children can be helped to feel the contrast between extending and contracting their limbs as they flatten out like a rug, stretch up like a skyscraper, or curl up like a ball. The contrast can be emphasized in functional movement as well: curling for a roll or stretching in a leap.

Most young children love to find or arrange small, enclosed spaces — under the table or behind the piano — where they can curl up for a bit and feel safe and alone. In one kindergarten classroom, the teacher upholstered an old-fashioned bathtub and filled it with pillows so that a child could curl up for a good, private read.

Relaxing

Children need to experience strong contrasts

Relaxing is most meaningful to young children as a contrast to vigorous motion or rigid stillness. When they play on their own, children tend to alternate periods of strenuous activity with more relaxed, reflective interludes; a child climbing the jungle gym may pause for a moment at the top to admire the view or to chat with someone down below. When you guide the activity you must allow for these stopping points or for an alternation of slow, gentle movement with fast, vigorous exercise. It is good to end a strenuous gym or outdoor period with a brief relaxing time, perhaps a quiet story. During a creative movement session you might alternate running, freezing, relaxing in quick succession to emphasize the contrast between them. You can direct their attention to their breathing and the pounding of their hearts, helping them become more aware of their bodies in rest as in motion.

CREATIVE MOVEMENT

Creative movement and dance sessions provide opportunities for direct teacher input. You should be aware of the different kinds of movement as well as the possible variations in movement quality.

Elicit different types of locomotion

You may sometimes choose to encourage types of locomotion that children don't often use on their own. If you want them to hop, for example, you can play bouncy hopping music, sing a song about hopping or set a problem: 'move from the black square to the white square on just one foot.' You can elicit a wide variety of movement by asking each child to find a different way to move across the room. You can beat time to the child's movement to emphasize its special rhythmic quality. Or you may tell a story during which children can roll like logs, gallop like horses, jump like bunnies, leap like deer and crawl like turtles.

Traditional singing games

Many traditional singing games with movement themes* such as 'Hey Betty Martin', 'Skip to My Lou', and 'Hop Old Squirrel' can be danced successfully in classroom, playground or gym.

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* See resource section for music books and records.

Contrast

Music

Images

You will increase the children's awareness of movement quality by juxtaposing two contrasting kinds of movement, for example, a delicate tiptoe walk with a strong stamping walk. You may elicit the movement with music or by an appeal to the imagination, 'Try not to wake up the sleeping dragon!' Or, you may simply describe the movement: 'Walk as lightly as you can.'

Levels

Children can be made aware of different levels of movement: slithering along on their tummies like salamanders or walking on tiptoe, stetching like giraffes reaching for the tenderest leaves.

Tempo

Force

Explore differences in tempo, from a slow crawl through a brisk walk to a fast run. Contrast fast, sudden movements with slow, sustained ones: a crawling turtle with a scurrying mouse. These differences can be combined with variations in force; the giant carrying a heavy burden up a hill moves slowly and forcefully while the langorous swimmer's motion is also slow, but light. Similarly, a woodpecker's choppy flight is light and fast whereas the action of his bill against a tree is forceful and fast.

Paths

Encourage the children to find different kinds of paths through space: straight beeline, meandering pathway or zigzag. These variations in level, time, force and path can be elicited by music, songs or imaginative themes of yours or a child's creation. They constitute a wealth of potential material to be explored gradually over many sessions.

Rhythmic accompaniment

Different gaits can be accompanied by particular percussion sounds: you can tap out a light, syncopated beat on a tambour for skipping or an even, steady beat for walking. Children can play instruments to accompany their own movement or that of another child. A certain instrument can signal a particular kind of movement, perhaps wood blocks for running, cymbals for leaping and triangles for walking on tiptoe.

Expression

Communication

Individual interpretation

Such sessions provide a way to encourage a fuller range of movement than children might use on their own and to make them more aware of the expressive, communicative potential of movement. Creative movement sessions for five-year-olds should not consist entirely of teacher suggestions. Rather, you build on the children's current interests and the movements you have observed in their play, extending and elaborating them by means of the variations in movement quality of which you are aware. Any session should include a time for free improvisation.

Spontaneous improvisation

Many other informal opportunities should be seized for expressive movement. During a discussion or story time, children can be encouraged to show rather than say what they mean or what comes next. The flight of leaves on the wind or a sprightly piece of music can set a child dancing. The teacher who is sensitive to the importance — and joy — of expressive movement will make time for such spontaneous dance when it occurs.

SKILLED ACTIONS WITH LARGE & SMALL OBJECTS

Throwing, Catching and Striking

Provide a variety of missiles

Because throwing, catching and striking are difficult tasks for five-year-olds, needing concentration on variables within and beyond their control, they need plenty of free practice. Balls 6" (15c) in diameter and more, made of plastic foam or inflated rubber, or the perforated plastic kind which withstand a fierce strike and only travel lightly and slowly should be available for them to throw and catch.

Put the balls in a basket or container in the area you designate for throwing. Then the children can choose and use them in that area. Make it clear that when they want to move to a different activity, they must return the balls to the container. Beanbags and quoits can be put out in this fashion, near the balls or in a different area according to the other activities you have chosen to make available.

Free practice develops skills

As with all play, children start on their own and join in pairs and finally groups when they are developmentally ready. They will

evolve their own activities which will probably include

- throwing across the room and running to retrieve,
- throwing in the air and trying to catch,
- bouncing many times, or one time and trying to catch,
- rolling across the floor and running after,
- throwing back and forth with a friend,
- throwing and catching in groups.

Join in and extend the activity

You can activate further play both by the way in which you use the equipment yourself, and by pointing out other children: 'John has found a good way to throw his beanbag — I'm going to try it, too.' 'Look at Mary bouncing that ball; shall we do that?'

Stimulate active involvement

You can start an impromptu game by throwing all the beanbags out of the bin one by one. Throw them in all directions as fast as you can and have the children collect them as fast as they can, and throw them back in the bin. The game is to see whether the bin can be completely emptied or completely filled, but the rules will change as the children decide. Provided they are enthusiastically involved in throwing and catching, it doesn't matter.

Progression comes through challenge

Catching

It is not necessary to teach children how to throw and catch as a formal exercise; however, you should certainly interact to aid the process. Practice will help them to improve their skills, and playing with a partner offers them opportunity to observe how others perform. Verbal encouragement from you as in calling '*Reach* for the ball', 'Stretch out — quick it's coming' or 'RUN RUN' to the child who realizes that more than standing with stiffly outstretched arms is necessary to catch a long throw. Catching — 'collecting in' the ball or beanbag — is a whole body action, and young children start by using their whole body to block, their arms to enclose, and finally, when their skills have progressed, their hands to meet and hold the flying ball. Help them through this development by providing a big ball which they can stop by blocking its way with their feet or even falling on top of it, using arms to cuddle it to them. If you throw them a large ball, they will probably enfold it in their arms, and later be less likely to hold them so stiffly immobile when catching a small ball in cupped hands. Some of the children will be quite skilled at catching and such manoeuvres will be unnecessary. Most five-year-olds will make an attempt to catch by hand

Throwing and catching

Throwing and catching with a partner is a more mature task, especially for the catcher. Judgements as to the length of the throw, the height of the ball, and the point at which to be ready to receive the ball have to be made. Children will find it hard to cope with the variable of the moving projectile and the necessity to move their body to meet it. They can use one or two hands or even a plastic scoop to practise catching. If a child is having difficulty catching from a long throw, try bouncing the ball gently in front of her instead of throwing directly to her hands; catching from a bounce is easier than from a distant thrower's hand. You could suggest that a child sit facing a wall, so that the thrown ball rebounds to him. This way he can control the strength and direction of the throw.

Provide targets

If targets are not made available, children will use what is there, throwing at the walls, basketball goals too high for them, light fittings and so on. It is better to provide something for them to aim at. You may have to improvise with a piece of equipment on which you fix a hoop or a basket, or which has a flat surface that can be hit with a ball or beanbag. Put out an empty bin a short distance from those full of balls, and suggest the children throw into it. Suspend a hoop horizontally so they can use it like a basketball goal.

At first children may choose to aim at a stationary target but before long they may be throwing at each other. The balls you have provided will not be hard enough to hurt but care should be taken with beanbags which can pack quite a wallop! If both children involved are enjoying it equally well, it certainly provides practice for aiming at a moving target. So does attempting to throw a ball through a rolling hoop, which is an idea you could introduce to a small group. You could also organize a group to throw their beanbags whilst running past a target.

Striking

Using a stick or bat to strike the ball involves another variable. Light, strong plastic bats allow children to experience an extension of the arm when striking, without the muscular strain involved in holding a wooden stick. A variety of sizes in both bats and balls offers children a chance to experience effects of changes in apparatus, to make choices, and extend movement vocabulary as they discuss the equipment with you and each other.

Bats, scoops, hockey sticks & paddles

Make plastic bats available, (and scoops, and paddles, and whatever else you have for children to use as strikers,) by placing them in areas of the room where you want them used. Make it clear how they are to be left when the children move on to try different activities, and allow time for them to try them out and practise proficiency. There are many variations of use for them, and they will mostly be discovered by the children in their play.

Observe and act

Observe how they are doing and join in with a group to extend the scope of their activity with your suggestions and example. Join another group where you have seen that they are exploring the possibilities of the equipment with imagination. Your participation can add vigour and pace.

Challenge

Praise the children's effort and endeavour whatever the level of competence, and encourage them to accept the challenge of the equipment they are using: to throw further and higher, bounce and catch and throw again, with growing skill and enthusiasm.

Equipment:

Balls, 4 inch perforated plastic
  6 inch and over
Bean Bags
Quoits, rubber or rope
Hockey pucks, rubber or plastic
Scoops
Bats
Sticks (field hockey sticks are best; strong plastic)
Badminton racquets and "birds"
Paddles

Activities:

Throwing
Catching
Striking
Bouncing
Rolling
Aiming

Hanging & Swinging

Anything that hangs or swings will be utilized by children for hanging or swinging! It is strengthening for arms and upper body; also for legs, if the hanging is done from the knee, and for abdominal muscles when the knees are drawn up to the chest in a hanging position.

Allow children scope to practise

Ropes and swings and bars are favourites with children. They can move along bars using their hands and legs to grip, they can hang head down or from their hands. They will practise their skill at using only one hand or leg whilst their egocentricity urges them to yell 'watch this!' or 'look at me!' A light mat beneath the equipment helps them develop landings and falls.

Ladders and rings

Ladders can be used across A-frames to provide locomotive hanging places, the parallel rungs facilitating the 'left, right' alternating movements of hands as the body swings and twists in response to and in support of the action. Rings, if hung low enough to be reached from a box or bench placed below, encourage children to hang and practise dropping in a controlled manner.

Ropes

Ropes hung from a bar usually need a low bench from which children can launch themselves into a clinging swing. Rope ladders are challenging and despite their difficulty, children will attempt to climb over and over again, gripping the rungs and endeavouring by the tension of their bodies to control the sway.

Equipment:

- Bars supported on A-frame equipment or other firm base
- Ropes
- Rings
- Ladders
- Mats, soft landing surface indoors or out

Action:

- Hanging
- Swinging
- Gripping

Balancing

Challenge of equipment

Intrinsic motivation

Balancing is high on the list of skills that pit self against gravity. Children are challenged to master the control of staying atop a bar or divider and to move along without touching ground as far as possible. In developing body control they teeter and lose balance, step up and try again. Boards stretched between climbing frames afford balance-walks higher from the ground than a narrow balance bar can be, and children love the tension and excitement afforded by the crossing. Taking risks and conquering tasks are important developmentally and children should not be discouraged if they attempt them.

Risk-taking

As long as the risks are only of minimal hurt and not seriously endangering, we should delight in children's bravery and achievement and be ready to demonstrate that tumbles are but momentary setbacks and part of the learning process.

Helping children to create their own challenges

Boards that children can move for themselves and set between supports or at an incline enable them to control at what level they will balance, and experience different heights and arrangements.

Playing with beanbags often induces a child to put one on the top of his head or on a knee or foot and attempt to move along without dropping it or losing his balance.

Equipment:

- Bars
- Boards
- Beanbags

Activity:

- Balancing

Pushing, pulling and lifting

Children help to design the environment

Active children develop spatial awareness

Indoors and outdoors there are plenty of opportunities for children to be responsible for their own setting by moving materials to their own design. Large and small blocks, chairs, tables, playhouse furniture, boxes and so on, afford them pushing, pulling and lifting practice. Buggies and wagons can be pushed and pulled with light or heavy loads. Swings and ropes attract pushers, and it is important to note a safety consideration here; empty swings can drive into a child quite painfully and a blow from a swinging rope in the gym can hurt a small head. Teachers need to be observant and aware of such hazards, but children can and should be responsible for the care of their playmates, and be taught to exercise caution. Like all developments, that caution won't be perfect until practice and maturity decree, but spatial awareness is developed by regular practice in conditions like this.

SELF-CARE

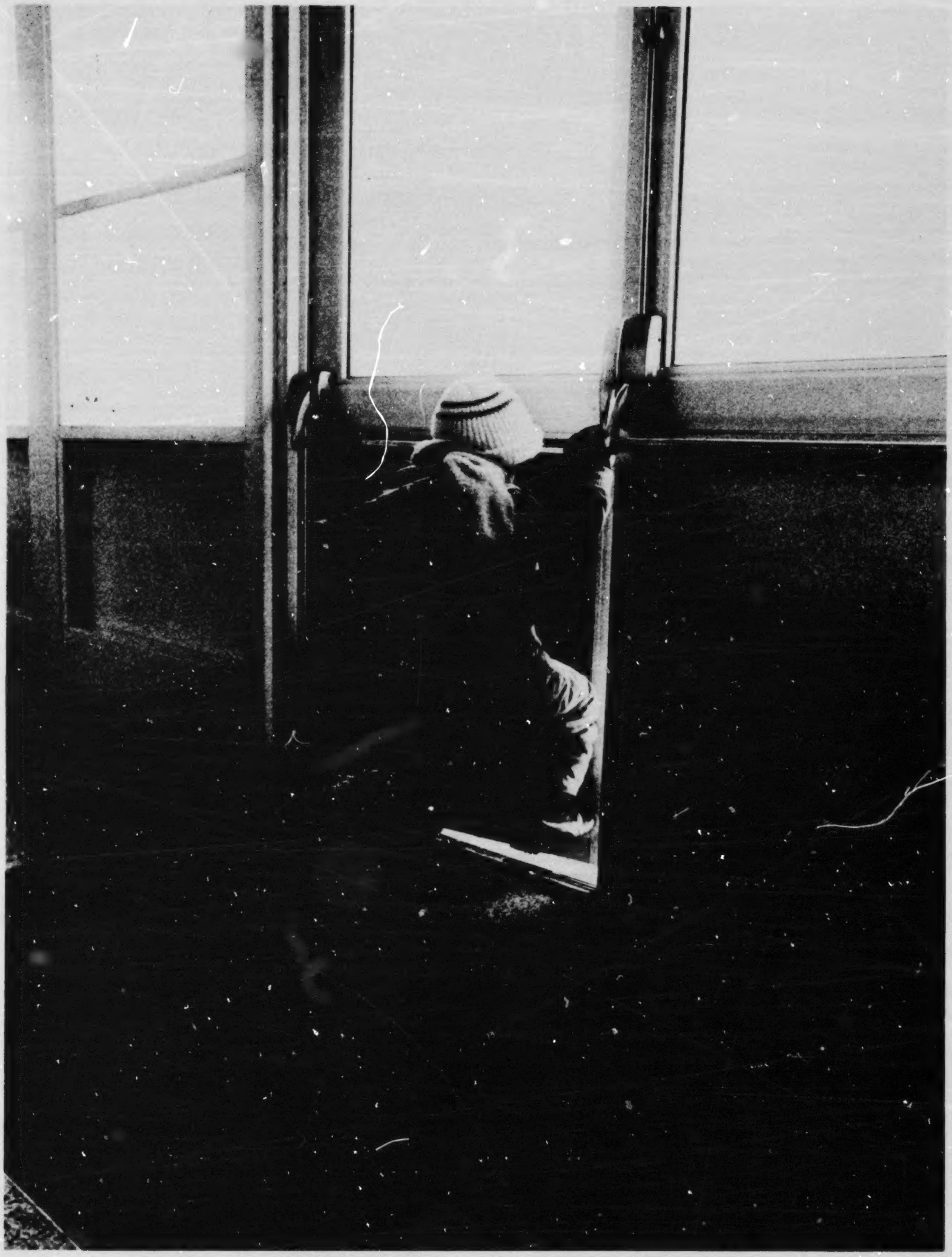
Resting

Eating

Dressing

Washing

Toileting



SELF-CARE

Encourage autonomy . . .

As indicated by its placement in our organizational diagram, self-care is affected by, and affects, attitudes and feelings as well as physical functioning. In keeping with our general orientation, we want children to become as autonomous as they can in matters of rest, feeding and hygiene. Most five-year-olds are eager to take care of their own needs and when happy and well will do so as a matter of course. Children who have not had much previous experience with self-care will require tactful treatment to prevent their feeling embarrassed or inadequate while they are learning. Children with physical handicaps will require more help than others at first but will still profit enormously from being helped to function as independently as possible.

. . . while accepting dependency needs

In the cause of promoting independence, however, you need not feel that you should never help out. After all, five-year-olds are *learning* to take care of their physical needs — this doesn't mean that they've gotten there yet. A child who is upset or unwell needs more help and encouragement than he does on a good day. At this age it is children's positive attitudes we care about most. If you retain your tolerance and sense of humour, you will be a valuable model.

Resting

A scheduled rest period is unnecessary

In a half-day or even a full-day program, there is no need for a designated rest period. The schedule should allow for a balance between more and less vigorous activity but at any one time in kindergarten the children may be doing different things requiring different degrees of exertion. Even when they are doing the same thing, some children will be expending far more energy than others. Five-year-olds differ in energy level, general health, and in the amount of rest they get (and require) at home.

Fives have differing needs for rest

The only reasonable way to help them meet their differing needs for rest, is to provide an emotional climate in which they feel free to rest or slow down when they tire and a physical environment that allows them to do so without leaving the scene of activity completely. A comfortable chair or sofa in the reading corner allows a child to curl up and rest with a book, and a cot or loft in the home corner allows him to take a catnap in the context of dramatic play.

For most healthy five-year-olds, enforced stillness is much more stressful and fatiguing than movement. If they are allowed to move around and change position frequently and if there are cosy resting places which they can use, most children will rest if and when they need to, easily and without a struggle. If we want them to take care of their own needs, they must first be aware of them; this we will not accomplish by immobilizing fifteen restless children so that three tired ones can sleep.

Eating

Snack is usually a sociable time

Most five-year-olds do an adequate, if not elegant, job of feeding themselves. Meal time at kindergarten, whether snack or lunch, should be pleasant and relaxed. Sometimes, when children are deeply absorbed or the time seems too short, you may set out a snack to which they can help themselves individually. More often, snack is a sociable time when children can enjoy a relaxed chat with a few friends. Several small tables generally promote a cosier atmosphere, more conducive to conversation, than one large table.

Children learn through helping themselves

Children can pour their own juice or milk from small, well balanced pitchers. Sponges should be kept handy for the occasional spill. Crackers, cookies, vegetables, cheese or fruit should be cut into small pieces and served in a tray or basket so that the children can easily help themselves or pass the food to another child. Some children will have no idea of how much they can eat, especially if they have always been served. By making portions small, we discourage undue waste and by allowing children to serve themselves we help them learn how much is enough.

Provide a positive example

Eating manners improve most when adults have a relaxed and tolerant approach. Your pleasant conversation and polite requests ('John, will you please pass the basket of crackers to Lucy. Thank you.') provide a positive model which children will imitate to the extent of their readiness. Insisting sternly on rules of etiquette ('I won't pass the crackers until you say please.') is counterproductive and not very polite.

Accommodate different tempos

Children, like adults, have very different tempos. One speedy child finishes his snack in five minutes while another might take fifteen. It is not necessary to insist that the quick eater stay at the table, nor need you, on the other hand, leap up when the first child finishes. If you stay at the table, some of the children who have finished will linger for company and conversation while the slow eaters finish in comfort. Those who are done can clean up and move on to an agreed upon activity that does not require close supervision, perhaps browsing through books or listening to a record. When most children have eaten you can join them or help with the cleaning up, leaving the last children to finish.

Advantages of shared food at snack time

Our discussion of eating presupposes that children will share a common snack, rather than bringing separate snacks from home. As we have said elsewhere in this curriculum, preparing and serving food is a valuable learning experience for children. Eating together is an important social experience, especially when food is shared. For purposes of economy, it makes sense to co-ordinate cooking activities with snack.

Nutrition education

It would be worthwhile to obtain parent co-operation in supplying funds or raw materials for a group snack. Such an arrangement would probably be less costly for families than sending their children with individual snacks each day. Organizing this kind of program would give you an excellent opportunity to discuss nutritional issues with parents and to share with them the role of food preparation in your program.

As a teacher, you share with parents the responsibility for their children's health and well being. You cannot improve kindergarten children's nutrition by lecturing to them about the four food groups or by disparaging the doughnut and kool-aid they may bring from home. But you can make a significant contribution by helping them to prepare and enjoy healthful snacks in school.*

Dressing

Most five-year-olds can dress themselves pretty well but there is quite a range of ability for such

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* For more about preparing food with children, please refer to *Smelling and Tasting (Sensory Awareness)* and to *Cooking* in the Resource Section.

Wide range of ability

tricky tasks as tying shoes. As one kindergarten teacher points out ruefully, the school calendar works against children in our climate: by the time they reach the peak of their dexterity in June, snowsuits are long gone. Dressing for the outdoors in winter seems to some teachers to occupy an inordinate amount of time. They complain that by the time the snowsuits and boots are put on and taken off again there is little time for anything else.

Dressing for cold weather

It is heartening to remember that dressing oneself in outdoor clothes is a valid and highly practical learning activity for a five-year-old, one which requires and develops eye-hand co-ordination, problem solving, and perseverance. When you compare the speed and dexterity with which the children don their snowsuits in March with the way they went about it in December, you will realize how much they have learned.

Helping with dressing

Help in dressing is most acceptable if given sparingly and as requested. A child who asks for help with his zipper only needs to have it started. Once the ends are joined he will appreciate pulling up the slider himself. After watching you and experimenting for a period of time, he will be able to manage the whole operation on his own.

The experienced teacher has a few useful tricks up her sleeve for winter dressing. She encourages children to use the toilet *before* putting on their snowsuits, keeps extra hats and mittens on hand, shows children the old upside-down and over the head trick with jackets and encourages them to help each other.

Dress-ups offer extra practice

It is a good idea to provide extra dressing practice in the context of dramatic play. The selection of dress-ups and doll clothes should include an assortment of fastenings, including belts, lace-up boots and zippered jackets so that children can experiment with them in an unpressured yet appealing situation.

Washing

Since many kindergarten activities are messy or involve handling food, it is necessary to have a sink right in the room. Children are more likely to develop a friendly feeling for soap and water if washing up is a comfortable, unhurried process with time to stop and notice the rainbow colours on the soap bubbles.

Genuinely useful tasks

Five-year-olds are attracted to the grown-up, sociable aspects of washing. It is positive in terms of mental as well as physical hygiene to let them take a real and important role in keeping the room and materials clean. For example, when rubber baby dolls and their clothes get grimy and would really benefit from a wash, a few interested children can scrub doll clothes or bathe dolls in a protected corner of the room or outdoors on a warm day. They will not miss the delightful play opportunities in such work if they are not hurried through their task. The same is true of cleaning tables; when there is time and the procedure is simple and pleasant, children can relish, at the same time and with no sense of inconsistency, the satisfaction of being a grown-up helper and the fun of squeezing out the sponge.

Keep clean-up pleasant

Some fives need to be reminded to wash after toileting or before eating. The need is less obvious to them than when their hands are visibly dirty as they are after painting or gardening. Germs are difficult to understand at this age, however knowingly young children talk about them. They will take your demands for cleanliness with good grace as long as you give them reasonably and in a friendly manner.

Toileting

Accidents may occur . . .

Most children are quite independent in this area by the time they reach kindergarten. If the toilet is not in the room, you should make sure that all children know where it is. This means showing them, not just telling them. There will sometimes be accidents because children may become so absorbed in play that they put off using the toilet until too late; or because they cannot undo all the tricky fastenings in time; or because they are nervous or upset or unwell or afraid to use the toilet in school. It is a good idea to be prepared for accidents with a few sets of extra clothing. Ideally, as well, each child should keep a complete change of clothes in school in case of accident, whether toilet or mudpuddle. Accidents can be embarrassing to five-year-olds, even when handled tactfully; most feel less conspicuous when they can put on their own dry things.

. . . can be provided for . . .

. . . and handled tactfully

Autonomy is important

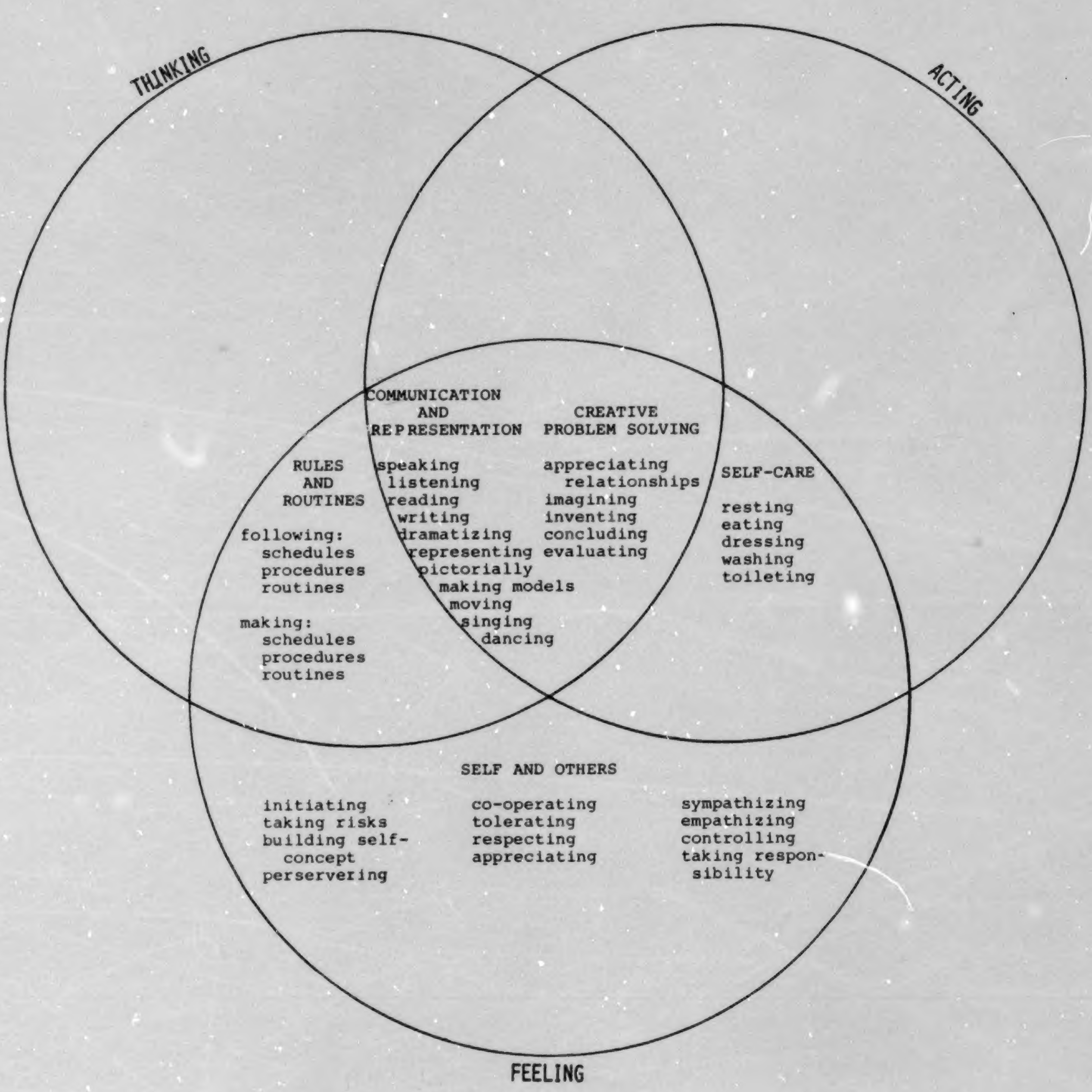
Toilet accidents are far less likely to occur if children are allowed to use the toilet whenever they need to. Self-care means the ability to take care of one's physical needs as autonomously as possible; it does not mean adjusting one's excretory functions to a group timetable. It doesn't hurt at all for you to remind children about toileting at reasonable times such as before putting on their snowsuits or going on a trip away from school, but that should be the extent of your intervention.

Don't be concerned that individual children using the bathroom will disturb other classes; one or two children make less noise going down the hall than eighteen. And don't worry that they will mess around in the bathroom. They may linger a bit while washing hands, but most of them will prize this independence and reward your trust with responsible behaviour.

Helping young children learn how to help themselves is a very important part of teaching. Their growing autonomy will be reflected in enhanced confidence and self-esteem.

SOCIAL-EMOTIONAL DEVELOPMENT

SELF AND OTHERS


THINKING
ACTING
FEELING
COMMUNICATION AND REPRESENTATION
speaking
listening
reading
writing
dramatizing
representing pictorially
making models
moving
singing
dancing
CREATIVE PROBLEM SOLVING
appreciating relationships
imagining
inventing
concluding
evaluating
RULES AND ROUTINES
following:
schedules
procedures
routines
making:
schedules
procedures
routines
SELF-CARE
resting
eating
dressing
washing
toileting
SELF AND OTHERS
initiating
taking risks
building self-concept
perservering
co-operating
tolerating
respecting
appreciating
sympathizing
empathizing
controlling
taking responsibility

SELF AND OTHERS

Self-Concept

Many children in the kindergarten will tend to be egocentric and ambivalent—confident and even assertive one minute and full of self-doubt the next. The kindergarten should aim to provide a supportive atmosphere, with room for emotional growth. It is crucial to the development of any fully-functioning human being that he have a positive and realistic self-concept, and there are many ways that kindergarten can foster this. In interaction with people and things children build up a generalized picture of who they are — 'I am what I think you think I am' is an adage that expresses that development. There are also many ways to damage the emerging ego and they are to be avoided as assiduously as the positive ways are promoted.

Home Background

We cannot hope to be responsible for the total development of the children who are only with us for a few hours of each day. Home and family are the prime factors in most children's lives and we must accept the limitations of our influence. However, we are responsible for the provision of a supportive and nurturing environment, capable of fostering the development of positive and realistic self-concepts in the children.

Social Development

Although we aim to develop each child through his unique and individual personality, they are all part of a wider social structure and need to develop related social skills and abilities. Families, which are the first 'other-than-self' encounters for most children, have their own value systems, which we must respect. To downgrade or undermine the values which individual children bring to kindergarten through our attitudes to their appearance or behaviour is destructive to the positive development we should be nurturing. We have to see that each child comes to feel part of the functioning social aspects of the kindergarten. This involves benefits and responsibilities as with any other social group but keeps them limited to the young child's understanding and ability. A feeling of 'citizenship' in the kindergarten community helps to establish positive self-image in the individual and conversely, the growth of self-image contributes to his social development. All this implies that children shall have opportunities for:

- meeting with success and coping with failure,
- expressing emotions in socially acceptable ways,
- meeting challenges and taking risks,
- making relationships with others,
- recognizing and respecting individual differences: racial, sexual and cultural,
- feeling confident of acting independently,
- demonstrating empathy,
- accepting and understanding responsibility towards others:
  sharing
  respecting
  co-operating
  tolerating
- enjoying and appreciating the experiences they encounter.

Ego-Centrism

Self-development is a precursor of social skills and abilities. Nature has seen to it that the young child is first concerned with self and only later with others. This egocentric point of view is part of a gradual and growing social awareness and does not have the same meaning as being selfish or self-centred which have evaluative implications. The young child does not feel disinclined to see another person's point of view, he simply does not understand that there *is* another point of view. As with other aspects of childhood, experience and practice in a conducive setting will help that understanding to develop.

James wants more of the unit blocks that Donald has used in his four-storey garage so he takes them, causing the building to crash to the floor.

James needed more blocks and took them from the nearest source. He acted egocentrically because that's his stage of development. He probably knows by five years old that adults take a different view of his behaviour but he does not yet know how to put himself in the position of the guy from whom he took the blocks. He can't empathize.

To continue:

Donald, not surprisingly, bashes James. James responds and a fight is in full swing when the teacher arrives. First, he stops the physical aggression, both verbally and with a gentle but firmly restraining hand. He asks both children in turn to explain what is happening, and he listens attentively to what they say. When Donald expresses his anger at seeing his work ruined, James responds 'Ah! Now I understand. I'm really sorry that I upset you and I'll build your garage again for you.'

It would be easier for us if this happened but in truth it isn't likely to do so. James does not understand Donald's distress and he cannot feel sorrow. He is building up his understanding of how *he* feels, and his sympathies are for himself. Only when he has come to terms with how he feels can he effect a transfer and sympathize with how Donald feels. It is vitally important that we help him to develop that sympathetic feeling. His understanding is limited just now, and if his teacher reacts as he would to an older child, *his* understanding is limited, too. You must have seen, for example, a child watching while another cries in anger or pain. The child who is watching may well be feeling curiosity, not empathy. 'What's going on here?' precedes a sympathetic involvement.

Sharing is difficult for egocentric youngsters who only understand 'but I want it', and we have to take the responsibility on our own shoulders if we want to see it happen, saying 'There's enough for both; here's how we divide them' or 'You can each have a turn; here's a timer to mark the end of his turn and the beginning of yours.' It will need a lot of instances before understanding really grows.

Sometimes it is easier than others:

The teacher listens attentively to their explanations. 'What do you think he could do?' he asks Donald. 'There's plenty of blocks on the shelf; he shouldn't take mine' protests Donald. 'Yeah! Let's go and get 'em' is James' response and in moments both boys are co-operating on a new building, their quarrel forgotten and their relationship strengthened.

James is a little nearer to understanding how the other guy feels, and the adult has demonstrated that he will not allow children to hurt each other, that he listens to what they have to say, and that he trusts them to find solutions to their problems if given the opportunity. Of course, many of the children will have developed further than James, by five, and find sharing easy and acceptable.

Weeks later James is in the block corner. Grabbing blocks and adding them to his tower, he reaches for the one he needs from the pile collected by another builder. He hesitates, glances at the shelves, at the child beside him, and heaves himself up to get the block from the storage shelf.

At this point, a smile and a brief word of approval from his teacher endorse the development.

Teacher Attitudes

To be truly supportive, a child's self-concept must be realistic. Responding to a child with indiscriminate approval of everything he does encourages him to see himself as superlative, takes away the stimulus of challenge, and risks undermining him dreadfully when other adults respond to him more realistically. If we 'coo' audibly about the 'cute' things he does, he will react with babyish or precocious behaviour; five-year-olds are so anxious to please us, and respond to what they think we expect. If, on the other hand, we listen inattentively or distractedly he will think himself uninteresting and undeserving of attention; if we hold back warmth and approval he will seek the fault in himself and say 'unlovable.' If, however, we respond to him with affection and genuine interest we help him to see himself as worthy and likeable.

Janet is busy at the painting easel. Her teacher stops to watch her for a moment. Janet has only recently begun to use the paint area and her painting is exploratory and somewhat immature.

What can her teacher say to help her feel her work is appreciated? Non-evaluative comment is worth more than empty praise every time.

'You're working hard, Janet. Is that fun?'

(You're saying in effect 'I'm aware that you're busy and I hope you're enjoying it.')

'I see you are using a lot of red. Is that a favourite colour of yours?'

(I'm not just glancing at your work, but giving it my serious consideration.')

What do you suppose comments such as the following do to a child's self-confidence? — 'Is that supposed to be a horse, Janet? Or a house? Oh. I see. A RED banana?' Comments like this have been heard in classrooms, but bad-guessing what the picture is and implying a value judgement about the colour she has used is not conducive to a feeling that her effort is to be valued by both the teacher and herself.

Sincere admiration and praise for what is admirable and praiseworthy at a five-year-old level helps children feel appreciated and contributes to their self-concept. Our attitude towards them and their actions should be unaffected by censorship or sentimentality.

You should be very conscious of treating your children with the same civility that you extend to your other friends. Thanks, personal and spoken with a smile, should be given to a child who has done something for you or the class, whether you asked for it to be done or not. Appreciation for kindness, thoughtfulness, and help is very important because we want children to repeat these actions and to be aware of them in others, as well as grow in stature because of your attitude.

Apologizing for your own infractions in an easy light manner allows children to feel able to say 'sorry' without resentment. Help them to acquire social graces of a pleasant relaxed nature. Other people will respond favourably and the feedback helps their self-image.

There are many ways in which you support and foster a child's good opinion of himself as a worthwhile, competent being. If you are sincere in your interest and liking of the children, you will practise them naturally in the context of the kindergarten day.

Help children to retain their dignity in different situations. Losing it so easily results in defensive behaviour.

A 'space-man' has burst in on a family game in the home area and is angrily ejected by the others. Ally yourself with him; his back is against the wall and the only way he may see open is aggression. You sense this was not his original intention. You listen to the group's complaint, but you stand close by the intruder. You say something like 'Oh, I see! Jake, we didn't understand about the family having lunch, did we? Maybe you should invite them over to see your space-ship. You could show them over and explain it to them. We sure understand that they were upset to have it zapping through their kitchen, don't we?'

You are saying in effect, 'We want to apologize for the intrusion, but this space-man has something to offer your play. He just lacks the maturity to present it in an acceptable way.'

Do say 'I like the idea, but do it over there, not here' instead of 'Stop that; you're interrupting.'

Do say 'Pouring can be tricky, can't it?' instead of 'Now look at the mess you've made!'

Do say 'Thank you for trying to help. I think Mary wants to do the rest on her own' instead of 'Mind your own business.'

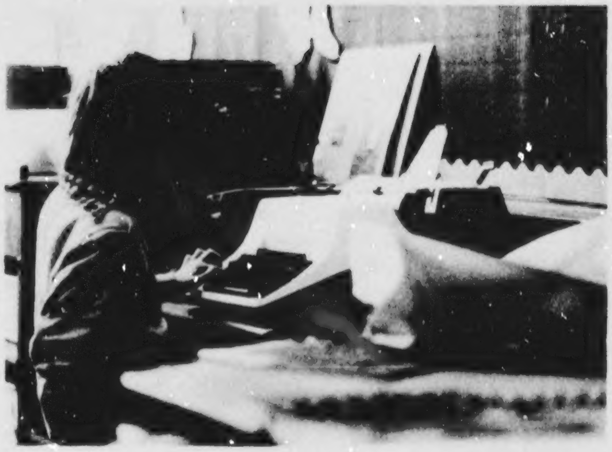
Do say 'That's one way of looking at it' instead of 'No, that's not right.'

Do say 'It's an interesting picture. Tell me what's going on here, will you?' instead of 'That wasn't very nice of Tom to call your picture stupid. I think it's perfectly lovely.'

Do comfort the aggressor as well as the victim. They sometimes feel very uncomfortable about the upset they have caused. Concentrate on the victim, but keep an arm around the aggressor.

The Kindergarten Room

Children need to develop the ability to be independent, and also to enter into relationships with others. For skills and abilities to develop, they need to be practised, which is why the structure of the kindergarten is as it is. It offers children opportunities to choose for themselves, make decisions about what they will do and where they will go, and whether they will join a group or remain solitary and independent. They know that you, like a wise and judicious parent, take responsibility for the decisions that it is beyond their capability to make, but that within a secure framework they have freedom. That means they can make mistakes and find out how to avoid them, because you help them recognize that 'trial and error' is a legitimate research method. They can set themselves challenges, because you provide a range of open-ended materials and activities. They will learn to persevere because you allow time for them to pursue their self-chosen activities without undue interruption.



Expressing Emotions

An emphasis on the positive aspects of self-concept in no way implies that you never put controls on the children. That might feel to them more like indifference than concern. They need to know that you have expectations of them, and that although rules are few, they are fairly inviolable. Your rules will probably include considerations for safety, such as not allowing anyone to hurt anyone else. Rules will also relate to staying within safe distance of you, because you care for them and need to take care of them. But your disapproval can be shown in destructive or positive ways, and you need to be sure that you do not undermine what you have built up in a child.

John is playing in the house area and has taken all the boxes out of the cupboard and thrown them on the floor, much to Sally's distress. The teacher is suggesting that John should stop this behaviour and clean up.

Avoiding confrontation to help the child 'save face'

The teacher could take on a role — being the father for example — and use the role to deal with the situation, but in this case she has decided that it isn't appropriate. Alternatively, direct confrontation will probably result in a stalemate; one of those situations where no-one wins and everyone's ego suffers. However, a clear 'stop this behaviour, John' has been spoken.

'Will you put these away, John, where they were before, please?'

'I don't like you and I won't. You're not my mother.'

Clearly there are some strong feelings to be considered. Much as the teacher wants to say 'I don't much like you right now, friend, and you are going to clear up, like it or not', it would only be destructive to John's ego; he isn't as confident as he sounds. The truth is that his teacher, whilst momentarily angry, does not dislike him at all.

'Well, I like you John; very much, and I'm sorry you're behaving this way.

Come on, Sally, let's put the boxes back. Maybe John will help us.' She starts to clear up the mess and Sally hesitantly comes to help her. John runs out of the house area, challenging the teacher to object. She doesn't and in a few minutes he returns, puts away a plate from the counter which was not part of the mess, and gives the teacher a sidelong glance.

John's teacher is giving a clear indication that he has not behaved well; she is not intent on breaking his pride but with letting Sally get on with her play. The teacher recognizes that John's behaviour is now indicating 'O.K. My pride won't let me help clear up, but my discomfort at your disapproval makes me want to make amends. I'll put *something* away.' His pride is saved, order restored in the playhouse and he recognizes that the teacher's allowing him independence and initiative does not allow him unbridled license. When dealing with antisocial behaviour, try to use action which stops the behaviour, explains the reason and requests the appropriate remedy. Make it clear that if the child won't do it, you will. It is the behaviour of which you disapprove, not the child. You are disappointed that the behaviour is letting him down because you have better expectations, but you are not belittling, humiliating, or disgracing him. The fragile self-concept of the five-year-old doesn't deserve that.

Expressing anger is acceptable

Dealing with emotions that sometimes seem bigger than oneself is a skill that children develop in the right atmosphere. They realize, with help from peers and adults, that we all need to express anger or fear or unhappiness at times. With help they can learn to express their feelings in acceptable ways, and grow in competence at the same time. When you say 'I know you're angry about the paint spilling over your picture and it's perfectly understandable, but I won't let you hit Mary because of it,' you reduce the frustration by allowing that he feels and needs to express anger, but you set limits to how he expresses it. Sometimes when we want to take away a child's misery and know that we can't because what happened, happened, it helps just to say 'You must feel very unhappy about it.' 'There's nothing I can do to change it, but I understand and I care' is what you mean and your affection and concern will be apparent.

Group times can provide opportunities for talking about emotional reactions. Children love to hear stories about you, especially when you were young, and telling anecdotes that lead into general admission of 'what makes me feel mad', for example, lets children recognize the universal need to express negative emotion. Discussion and example offer them some acceptable ways of doing so.

"Doing' is so much more meaningful to kindergarteners, that talking needs to be kept to a minimum, but if it occurs spontaneously or is teacher-instigated once in a while, such discussions can be helpful.

Observing

In the normal day-to-day functioning of the kindergarten there are observations you can make about each child from time to time which may give you insight into their emotional development.

What do you observe about Bill's body language?

Does Ann enter the room confidently? smilingly? hesitantly or even reluctantly?

Can David join a group of children at play with ease and confidence?

Does Ian tend always to seek the same companion and to deter that child from playing with others?

Can Suzannah work or play alone contentedly on occasion?

Do other children repeatedly complain that Beth is mean and try to avoid including her in their group?
Does Tony show pride in his achievements?
If Jenny experiences frustration and disappointment, can those feelings be used to spur further effort?

Watching the children in action, and noting incidents in individual records will help develop a picture of how children are growing and whether they need help in particular cases. Some children need help in making friendships; pairing children at activities may work.

Sandra is drifting from table to table, never getting involved in any activity for more than a few moments. Her teacher has noticed this and made a note of it on several occasions, seeing that while Sandra watches other children, she doesn't seem able to approach or join them. Again, Sandra is closely watching two girls busy with a cutting activity, but they don't attempt to include her and she makes no effort to be included. As she moves to another table the teacher joins her, indicates a stool beside Mary, and sits at the table with both girls. 'Mary, will you show us how you are doing that?' the teacher asks. As Mary shows them how she stretches rubber bands over the geoboard the teacher eases Sandra into trying it and Mary into helping her, so that she can quietly leave the table in a few minutes when she sees that the girls are busy and involved. Mary is enjoying her temporary custodial role and Sandra feels accepted. The teacher will try to see that Sandra is helped to join in on other occasions, too.

Self-Observation

Observe your own reactions, too:
Do you always treat the children with the courtesy you expect them to show each other and you?
Are you careful never to expose a child to ridicule or undermine him, especially in front of his peers?
Do you share your sense of humour with the children, and encourage its development in them? (Children are very literal and often need jokes or teasing explained in a way that would negate them for older people.)
Do you listen attentively as well as talk to the children?
Do you frequently get down to the children's level, by crouching or sitting with them?
Do you like them and enjoy them? Do you let it show? How else will they know?

RULES AND ROUTINES

Following and Making:

Schedules,

Procedures

Routines

RULES AND ROUTINES

The Challenge of Group Living

For many five-year-olds, kindergarten will be the first experience with group living beyond the family circle. It will not be their first contact with rules and routines because these operate in the family too. In the kindergarten, however, expectations must be stated more explicitly than in the home, partly because teacher and children do not know each other as well as family members do, and partly because each child is confronted by the competing demands of other, strange children for love, possessions and privilege.

It is not always easy for children to learn to get along together, to strike the right balance between acquiescence and assertiveness, co-operation and individual striving. The interpersonal issues: friendship, competition, collaboration, are not issues of early childhood only. Healthy people work throughout their lives to reach deeper understanding of themselves and others. If they make a good beginning in kindergarten, if they develop sound strategies for making friends, resolving differences and working together, you, the teacher can be sure that you have helped them with one of the most basic parts of their education.

Rules and Expectations

Realistic expectations for behaviour

What are the characteristics of the environment in which positive social growth takes place? How can we provide the proper mix of firmness and flexibility so that children will find safety, predictability and order, yet freedom and choice as well? You will need to become clear yourself on the difference between hard-and-fast rules and general expectations for good behaviour. If, for example, you lay it down as an unalterable rule that children are to clean up whatever they play with, then non-co-operation is tantamount to infraction and you may find yourself in a no-win battle of wills when you try to force the resistant child to comply. If, on the other hand, you project a general, matter-of-fact expectation that everyone will help clean up the room, and if you yourself participate cheerfully, the children will usually cooperate with you, gradually becoming more self-sufficient.

On those occasions when a child refuses to clean up, whether because she is tired or upset or just testing you, you can take it in stride, saying something like 'Another time, I'll expect you to help put away the blocks.' Your attitude makes it clear that, while co-operation with clean-up is what you expect of five-year-olds most of the time, occasional lapses are forgivable. You also keep the issue at a practical, cleaning-up-the-blocks level, not an occasion for establishing or defying authority.

There are some children who make clean-up a long-term issue you cannot ignore.

Toby consistently uses a great number of blocks and, just as consistently, refuses to put them away, even with help. You may have to prevent him from using blocks for a while.

'I'm sorry, Toby, but, since you don't put away your blocks, it just makes clean-up too hard for the rest of us. No block building for you today.'

This may mean a difficult day or so for Toby, but he will begin to see your point and to understand that you mean what you say. Just be sure that, when you do let him resume block play, you help him to meet your expectations successfully. Remind him at the outset and then give him a personal early warning before clean-up time. And congratulate him when he does pick up the blocks.

'That's a good job. The blocks are all back where they belong and ready for tomorrow.'

Predictability

A reliable order of events

The function of rules, schedules and procedures in the kindergarten room is to provide a predictable structure within which children and teacher can operate securely and autonomously. If play time, music, snack, outdoor time and story usually occur in the same order and even in the same places, the children can begin to predict what will happen next by recalling what happened yesterday and the day before. In this way, transition times become more serene because children know what to expect and what to do.

A clear organization of space

Similarly, the orderly arrangement of books and materials and the organization of space into certain areas associated with particular activities provides children with a predictable framework. In such a setting it is easy for them to learn where to find things, choices are clearer and procedures simplified. The child who wants to paint, for example, finds the easel ready with paints, brushes and clean paper. This convenient set-up enables him to get started immediately. Painting then becomes part of his repertoire, one of a number of things he knows how to do. Eventually he will learn to mix paint or fetch clean paper and water, either to complete his own project or help make the easel ready for the next child.

It is important for the framework to be appropriate to the group. If children appear to move easily and efficiently through the events of the day; if they know what happens next, where things go and how to help themselves and each other; and if they appear interested, involved and relatively harmonious; then you can feel pretty sure that the rules and routines of the classroom are working for them as they should, to provide a secure rhythm to their days.

Routines are Flexible

Variation within the context of the familiar

These structures should not, of course, be regarded as immutable. Snack time can be postponed while children gather at the window (or go outside) to share the the wonder of the first snow; painting easels can be taken outside on a sunny day; story time can be extended if all the children are deeply engrossed in the book. What is important is that these variations are not whimsical, they occur for a good reason and in the context of the familiar. When everything is variable, children do not feel in control of what happens around them; they can only react, not plan.

Include children in making rules

On the other hand, children gain insight into the meaning of routines when they are included in considering changes. This can be a valuable problem-solving activity. Here are some situations that might call for a change in routine: clean-up may take so long that snack time is always rushed, the block play may spill out into the house area, or some children may feel that they don't get enough turns to feed the guinea pig. Children's solutions to these problems can be tried even if you feel sceptical about them; if the new system works, fine; if not, it can be re-evaluated and modified. This kind of trouble-shooting discussion helps children understand more about rules and routines, and reminds teachers that they involve thinking as well as socialization.

Freedom Within Secure Limits

Freedom to play

It is important that routine procedures, schedules of activity and designated places for materials provide a stable (but not inflexible) background for activity that is much more fluid and, as far as possible, within the child's own control. That is, it is fine for block play to go on within a particular area of the room and during a certain time of the day, even for certain blocks to belong on certain shelves. These limits having been established, however, the child's use of the blocks should be less controlled. No one should give her a model to copy or insist that she state ahead of time what she intends to build. She should be allowed to choose whether to drive blocks over to her spot on a truck, push them across the rug in a pile or carry them in her arms. If she gathers up too large an armload, she should be permitted to discover the problem herself, provided that no other child's head is imperilled. She needs to find out for herself the best way to do things, even if she makes mistakes at first. Whatever temporary loss to efficiency results is more than compensated for by the child's growing confidence and independence and her ability to think for herself.

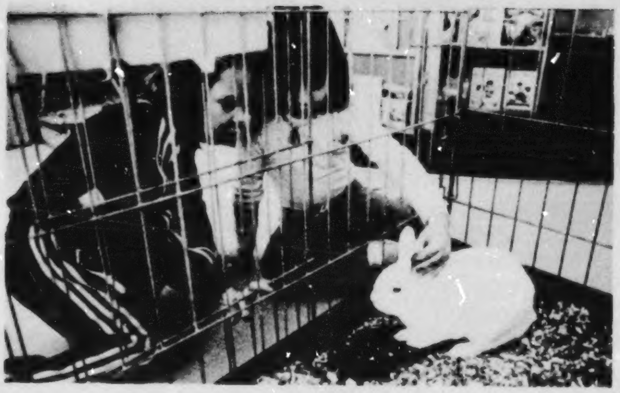
. . . to choose . . .

. . . to experiment

Children Can Make Routines to Meet Their Needs

Sharing jobs and privileges

One of the ways in which children first become aware of the structures which regulate life in kindergarten is through taking part in deciding how attractive jobs and privileges are to be shared. Most teachers have ways of alternating jobs fairly, but it is helpful to children if the need for finding an equitable way of taking turns arises out of their own experience. At the beginning of the year you might let children water plants, deliver messages, set up for snack, feed pets, etc. on a casual, ad hoc basis. Eventually, there will come a time when a child will protest that he *never* gets a turn, other people get all the turns and it's not fair. This is an ideal time for a discussion of what jobs there are in the room and how they might be kept straight.



Use children's ideas

A method of rotation can be devised right then and there, the advantage being that children know precisely what the function is of the chart or list or whatever. Also, since they have helped devise the system, they are more aware that it is just a system, neither magical nor unchangable. Therefore, if problems appear later they can think about changes: perhaps we need not one, but two, guinea pig feeders so that the turns will come around faster; perhaps children who have birthdays in the summer can sit on the red velvet cushion on a special un-birthday day; maybe we need to write more letters so that there will be more messages to take to other classes; and so forth.

A word about job charts: most teachers love them and spend a great deal of time over them, but you should consider how to make them appropriate for five-year-olds. They should be usable, hung at child height, with pictorial symbols as well as written labels. Movable parts like job pictures to stick on with velcro or name labels to slide into a slot or an arrow to point to one's name are fun to use and underscore the concept of taking turns. Make charts simple so that children can read them. This means making each name and each job picture large and not having too many variables on any one chart. Keep a chart of rabbit-related jobs (food, water, bedding) near the rabbit's cage and another chart for keeping track of messengers and milk deliverers near the door and consult these at the relevant times. This is preferable to making one big chart which the class goes over first thing in the morning and promptly forgets.

Safety Rules

Rules: few and firm

There will be some rules in the kindergarten which are not flexible and not open to much modification by the children. These concern matters of safety, and behaviour that is violent or destructive. There is no question that children cannot be allowed to dart out into traffic or push one another off high places. They must learn to exit quickly and quietly during fire drills, cross streets safely and refrain from dangerous violence to each other. These are not matters for compromise. On the other hand, in the well-planned program there should be a minimum of life-threatening situations and the number of inflexible rules should be correspondingly few.

Clear explanations

Because the reason for safety rules may not be obvious to children, you will need to explain, for example, not only what to do during a fire drill, but why. You will need to respond to children's fears and questions and make sure they know the reason for practising getting out of the building quickly and quietly and how this practice keeps them safe. Similarly, the child who gleefully flings sand may not realize that he is endangering his playmates. He needs to be stopped but he also needs to be told that sand can hurt people's eyes if you throw it.

Setting Limits

When children are upset

Children will not always act reasonably and follow rules. You may need to restrain a child who is terribly upset, to prevent kicking or biting or throwing things. The child will not be able to listen to long explanations at such times. It is important that you accept the child and the strength of the emotions, even while you prevent the actions. 'I know you're angry, but I can't let you hit. I want to keep children safe here.' Or, 'You may not knock over Jerry's building. He worked hard to make it. I won't let anyone knock over your building either.' Your words and actions will reassure all the children, including the one who is striking out, that you will protect them. Since some children hit first out of a fear of being hit themselves, this reassurance takes away some of the motivation for violent behaviour.

While such behaviour is unacceptable, it is not incomprehensible. You can be firm without being shocked or outraged. Five-year-olds are beginning to learn to control themselves but sometimes they lapse and will need your help.

Expectations Must Be Appropriate

Children will be successful in conforming to our expectations of them if we make these expectations reasonable and clear. We must remember that five-year-olds are the youngest children in the school and are new to group living. We cannot expect them to spend their days silently or to wait passively to be told what to do. We can expect that, given a classroom that is well organized, a program that respects their need for action and choice, and a teacher who is eager and well prepared to respond to them as individuals, children will grow in their ability to follow, understand and adapt schedules, procedures and rules.

Footnote: You may encounter a child who creates real difficulties for you or for other children. If you feel worried or unsure about how you are handling the situation, please don't wait until you're desperate. Your principal or supervisor, a fellow teacher or an Early Childhood consultant can help you to understand and deal with the situation. Getting help when you need it is better than letting things deteriorate.

INTELLECTUAL DEVELOPMENT

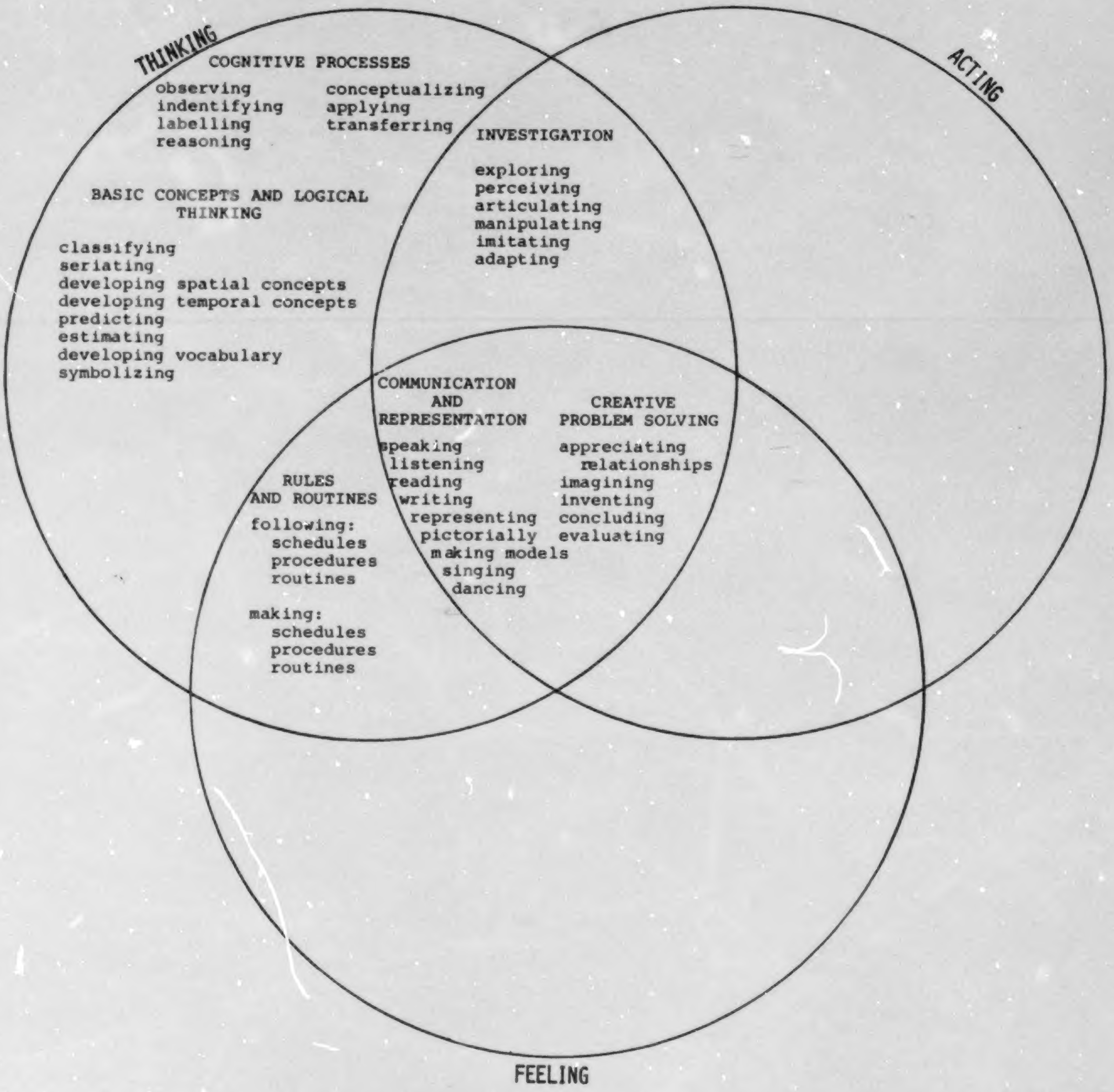
Enhancing Intellectual Development

Cognitive Processes and Abilities

- *Observing*
- *Identifying and Labelling*
- *Remembering*
- *Reasoning and Conceptualizing*

Basic Concepts and Logical Thinking

- *Classifying*
  - Graphing
- *Seriating*
- *Spatial Concepts*
- *Temporal Relations*
- *Representing/Symbolizing*
  - Reading
  - Writing


THINKING
ACTING
FEELING
COGNITIVE PROCESSES
observing
indentifying
labelling
reasoning
conceptualizing
applying
transferring
BASIC CONCEPTS AND LOGICAL THINKING
classifying
seriating
developing spatial concepts
developing temporal concepts
predicting
estimating
developing vocabulary
symbolizing
INVESTIGATION
exploring
perceiving
articulating
manipulating
imitating
adapting
COMMUNICATION AND REPRESENTATION
speaking
listening
reading
writing
representing pictorially
making models
singing
dancing
CREATIVE PROBLEM SOLVING
appreciating relationships
imagining
inventing
concluding
evaluating
RULES AND ROUTINES
following:
schedules
procedures
routines
making:
schedules
procedures
routines

Enhancing Intellectual Development

> *Knowing, mastering a problem, understanding a relationship, meeting a challenge are not solemn experiences, but can give delight. The atmosphere of the classroom should be permeated with the buzz and bubble of that pleasure.*
>
> *Barbara Biber et al.*, Promoting Cognitive Growth

As teacher you will arouse children's curiosity, provide encouragement and techniques for investigation, and help them to make sense of their experiences and discoveries. The ingredients for the process are the children, the physical environment and you, yourself: model, observer, facilitator and catalyst.

Most important to the young child's intellectual growth, as to his growth in other spheres, is direct, active experience. Children need opportunities to wonder, to observe, to poke into things, to take things apart and put them together, to ask questions and find their own answers. They need to come up against challenging, interesting and puzzling situations so that they can work out solutions for themselves.

In many homes where cognitive competence is valued, parents unwittingly deprive children of the means of acquiring it. Too much emphasis is placed upon input — electronic entertainment and formal lessons in everything from language to dance — and not enough upon interaction. There is not enough time for exploring, learning and thinking; that is to say, there is too little free play.

In kindergarten we feel that it is not enough to feed children information, however important and interesting. Instead, we give children things and situations to be curious about, help them to become actively involved, and support them in their efforts to organize their impressions. In short, we put learning directly into their own hands.

Throughout the year, you and the children go on walks to explore the school and the neighbourhood. Parents and other visitors come in to share their specialized work or hobbies. Children assemble, examine, sort, display and use collections of natural and manufactured objects. They tend plants and animals and watch their growth. They use and explore the properties of a wide range of open-ended materials: clay, sand, water, blocks, paint, etc.

In their discussions with you and each other, they share ideas, express and clarify their thoughts, raise questions and encounter conflicting points of view. They represent their impressions of all they encounter in many ways, thereby organizing and extending their thinking. They have an effect on the world of the school because what they say and choose and discover influences your plans and helps you determine what happens next. Similarly, what *you* say, your distillation of experience into words, helps clarify and extend their ideas.

The children will gain much personally relevant knowledge from their activities. Just as important, they will gain new techniques for investigation. Finally, they will gain experience in putting ideas together and seeing their relationship.

COGNITIVE PROCESSES AND ABILITIES

Observing

Selecting

Perceiving

Observing involves all of the child's senses. In his busy taking in of the world, he soon learns to be selective, to focus his attention on certain interesting and important phenomena for long enough to satisfy his curiosity. Observation is not entirely passive; the child not only receives but actually seeks out, attends to and interprets the information he takes in. As he gains experience with perceiving and with thinking about what he perceives, he will refine his interpretations. Therefore, the accuracy of perception and the correctness of interpretation are not as critical as the fact that the child does look, does interpret and does go back to look again.

Exploring

What each individual chooses to observe, tells us a great deal about his interests and learning style. Observing is important behaviour in the kindergarten because it is part of the children's exploration of the world around them. Cognitive development is marked by increasingly detailed and well focused

observation of the here and now; children must experience things directly in order to understand.

Motivation
Time
Encouragement

Children entering kindergarten are experienced observers, but there is still a great deal of development that can take place. Just as adults vary in their ability to notice and describe, so do children. The kindergarten experience should sharpen observational skills by offering: an environment rich in objects and activity to observe, time to engage in investigative and exploratory play, and the teacher's encouragement and example.*

Observing what's there: active involvement

As an example of what might occur in kindergarten, consider a wet, windy day. Most adults would hurry children inside, out of such weather. You might instead take the children out for a walk, directing their attention to the dark, scudding clouds and the flattened grass. Children will taste the rain on their tongues, test the wind's force by running against it and explore puddles by splashing through them. Perhaps tomorrow the sun will come out and dry up the puddles or the rain may continue, turning puddles into streams. In either case there will be more to observe, comparisons to consider, speculations to make about cause and effect.

Creating situations for observation

As the example above shows, children observe more eagerly when they are actively involved. They do not simply watch the guinea pig, they hold, pat, weigh and feed her. The experience of creating the proper pond-like home for the polliwogs builds the children's interest. Some of them become daily observers, using magnifying glasses to help them spot the slow but exciting changes of metamorphosis. We give children malleable materials like clay so that they can observe tactilely as well as visually the changes they can effect by pressing, rolling, poking and tearing.

The kindergarten teacher also gives children many chances to observe each other, by providing opportunities for them to work, play and talk together and by permitting children to watch from the sidelines when they wish. Welcome the children's curiosity about each other; a child's interest in a crying peer is potential sympathy, not nosiness. You may note aloud significant details of each one's activity: John's sliding, leaping dance, Susie's block building with windows, Brian's thickly layered painting. Your attentive, observant interpersonal style bespeaks your appreciation of each child's uniqueness. You show that you find them interesting and important. You show them too that observing is a valid activity, a way to know and appreciate.

Identifying and Labelling

The function of labels

By identifying something with a name or label, children clarify their thougnts about it: this fuzzy crawling thing is a caterpillar, this place where I spend my days is kindergarten. Teachers help children settle into school by identifying and labelling: this place is the block area, this is snack time. Because most children have been working with adults since babyhood on naming things, they are quite practised at it by five. Indeed, it is remarkable how quickly and often unconsciously children and adults learn each other's names for things and use them to communicate what they've seen, what they're doing or what they want.

Difference in adult and child thinking

Labels do not function in exactly the same way for children as for adults, however. For adults, labels are expedient and changeable. For young children, a thing *is* its label; once something is identified in one way they have difficulty in seeing it in any other way. Once 'teacher', you remain teacher, not 'mommy' or 'tennis player'.

Accepting children's words

Words function very powerfully for five-year-olds. Having names for things means that they can talk about them even when they are not present. If we fail to understand or refuse to accept a child's names for things, we deprive him of this power. We may also convey disapproval of him and his family. Even though it may shock you when Brian holds aloft a dripping rubber dolly and crows delightedly, 'She's pissing!' it is not good practice to snap, 'That's not nice!' You will sometimes model more accurate or more widely acceptable terms than those children have at their disposal but you must accept their terms as a starting point.

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* See the section, *Sensory Awareness*, for a further treatment of the subject.

Multiple labels, multiple viewpoints

Indeed, one should consciously convey to children a flexible, accepting attitude toward regional and familial terms for familiar objects because children tend to look upon them as fixed and absolute: 'They are not gym shoes, they're tennis shoes, my mother even said!' Both children would be surprised, possibly intrigued, or perhaps disturbed if you were to say, 'Harry calls them gym shoes, Jill calls them tennis shoes and I call them sneakers; what do you call them, Joey?' This is an important point; if there can be different ways to name things, perhaps there can be different ways to think about things too.

Children's names

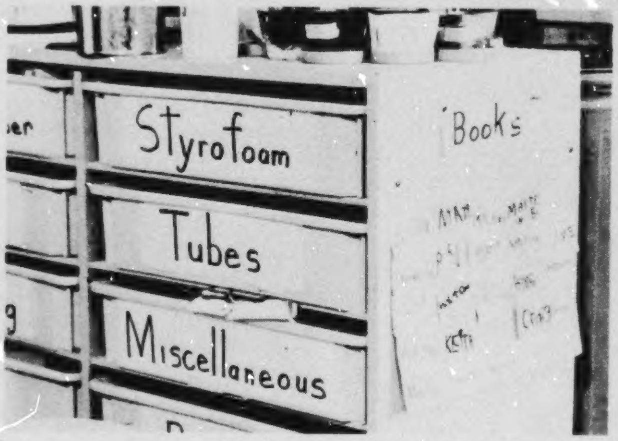
You will help the children identify many things in kindergarten. Perhaps the most important are the other children. At first each child thinks of the others chiefly in terms of how they impinge on him: 'That girl pushed me!' 'That boy won't let me use the swing.' Their use of names is an indication that they are beginning to see one another as individuals. You can supply a child's name to assist the process but you should not insist that children use each other's names every time they address each other.

Name tags

Name tags are meaningful to kindergarten children because friends have begun to be important to them and because many of them are experiencing for the first time what it's like to be somewhere where they're not known. Having children wear name tags for the first few days of school is prefereable to calling them by the wrong name. Even later on they can readily understand the request that they wear their tags when visitors come or they go on trips, even though the need would not be obvious to them at first. Many five-year-olds learn to read their own and other children's names if name labels are used frequently in the room on charts and lists and to mark possessions and projects in progress or on display.

In one classroom the teacher made a picture name card for each child. The pictures were quite simple but they bore some resemblance to the real children and helped differentiate similar looking names like John and Jean. The children placed their cards on a shelf near the door when they arrived in the morning and laid them flat at night. They put them on a special chair when leaving the room during the day. They soon learned to use the cards to figure out who was absent and referred to them when writing their own or a friend's name. Since the cards were accepted symbols of the children themselves they could be grouped and arranged in early graphing activities. When Amy joined the group in January she copied some of the cards to make a book she called Kids.

Picture and/or written labels can be used to designate where things are kept, thus making the room more orderly and accessible to everyone. Children may not understand the use or meaning of these labels at first but will begin to do so if you frequently refer to them: 'You need some clay? It's over in the corner near the sink in the covered plastic pail. It says 'clay' right on the side.' Although the child actually locates the clay from your verbal directions, her attention is usually arrested by the label. She may run her finger under it and show a friend. An important connection between object and written label has been established. This is functional, contextual reading.



Extend vocabulary

One of your important tasks will be to help children refine their observation and identification skills and extend their repertoire of names for objects and people. Sometimes you may supply new words by using them in context: 'I see you're using the cylinder blocks to hold up your roof.' You may also show them how to get help with identification by asking questions yourself of knowledgeable people: 'What do you call this kind of truck that carries heavy road equipment?'

Field guides

Identification by matching

You can also show children how to use books for identifying. There are field guides to birds, shells, rocks, mammals, trees, fish, etc. Factual books with clear illustrations can be used as field guides to identify things like tools, trucks or cars. Making precise identifications requires careful observation. Five-year-olds can get very good at this kind of examination, especially if you enjoy it too and if you help them look for and describe important details: 'You think your flower might be one of the ones on this page? Let's see. It does have white petals like that strawberry blossom. Does it have the same number of petals? Check and find out.' Identifications can be accepted as tentative hypotheses: 'Ben thinks our caterpillars will turn out to be Black Swallowtail butterflies. Here's the picture he found in his magazine. Let's keep it near the jar with the chrysalises.' When the butterflies emerged in the spring, Ben was proven correct, which delighted him and the other children. His research at home had followed a great deal of painstaking observation and description of the real caterpillars and chrysalises at school. Patient five-year-olds like Ben are as good at this kind of work as adult amateurs.

Pursuing individual interests

Like adults, children make more detailed, precise identifications of those things which especially interest them. There are some new terms, like Black Swallowtail, that all children will learn as a result of an exciting shared experience; but, whereas Sarah can name all of the birds that come to the feeder, John is content to refer to them as birds. He, on the other hand, recognizes the make of every car in the parking lot whereas Sarah would only distinguish between trucks and cars. Evan, like John, recognizes every car in the lot; he doesn't know the make but he associates each with its owner. In a flexible program, children are encouraged to pursue their special interests and to learn to identify things that are meaningful to them: rocks, cars, birds or people.

Using labels in play situations

Identification as described above entails learning generally accepted names. Kindergarten children should also have the opportunity to identify things for themselves and to label them for others' edification. In dramatic play, of course, children take on new identities, sometimes inventing new names to go along with a grown-up role. Many five-year-olds like to have labels for their creative representations, their block buildings, paintings or sculptures. Dramatic play may also involve written labels: price tags or signs.

Watching keenly, describing accurately

Identifying and labelling are important to the kindergarten child, not simply because he increases his store of terms, but because the act of making precise identifications causes him to look more sharply and describe more accurately. When learning or inventing verbal and written labels he experiences the need for consensus; a thing has a name because some of us agree upon it.

His skill in identification and labelling, elaborated through play and exploratory situations in kindergarten, will form the basis for much of his later work in science, mathematics and reading.

Remembering

Thinking changes with development

Memory is basic to learning because it enables children to accumulate knowledge and learn from experience. Children do not simply record experience, they record their interpretation of it. As their interpretations change, based on present discoveries, the memory changes as well.

Five-year-olds often have tenacious memories, especially for what they have experienced directly. At other times their memories seem to fail them utterly, as when a child's parents ask, 'What did you do in Kindergarten all morning?' and he answers, 'Nothing.' This apparent lapse of memory has more to do with the scope of the question, however, than accuracy of memory. The child is not likely to organize experience into units like 'the morning.' He could probably describe his friend's new dump truck in detail, though, and might even be able to tell his mother what he ate for snack.

Putting experience into words

In kindergarten there are many activities which strengthen memory and many occasions when children are encouraged to reflect upon what happened before. Your frequent conversations with children about what they are doing now accustom them to putting their experience into words. This practice helps them talk about past events as well. You will frequently talk with them about the very recent past: 'Tell me about your block building. How did you get it to be so tall?' 'Harry, can you show Michael how to mix some more paint? I know you did it yesterday.'

Relive past events with photographs

Summarize recent experiences

Photographs and scrapbooks make remembering a satisfying personal or social activity. Children love to retell the events of a trip, to find themselves in the photographs and their names in the captions. In conversation as they work with clay or eat their snacks you can encourage children to recount their experiences. You do this by being an attentive and appreciative audience, perhaps sometimes sharing a memory of your own. You may write a recipe with a group *after* they have cooked to encourage them to think back over all the steps. Encourage children to take responsibility for remembering things that concern them: 'Your mom forgot your sneakers? Maybe that's because she's not the one going to gym today. Now how are you going to remember your sneakers next time; what would help?'

Memory

Songs

Practice is important and is certainly provided by games like 'Lotto,' 'Concentration' and 'I went to the store and bought . . .' (a game with a cumulative shopping list). Five-year-olds also enjoy songs with cumulative verses like 'Got Me a Cat' or 'I Know an Old Lady Who Swallowed a Fly.' They are as eager to repeat songs, poems and stories they know well as to learn new ones. You may hear Robert singing his favourite song over and over again as if consciously committing it to memory. Later, that song will make perfect beginning reading material for him since he has only to match the words he knows by heart with the words he sees on paper.

Dramatizing

Retelling and re-enacting stories is a favourite kindergarten activity. It is important not to destroy the fun and enthusiasm by making this too formal an exercise or insisting that the children's story follow the original exactly. If the experience is enjoyable they will want to repeat it, perhaps with puppets or when playing outdoors.

Verifying memory by repeating experience

Because we want children to use their powers of memory to increase their understanding, we usually ask them to recall things which they can verify directly. For example, you might notice that Ellen does not have any idea of the daily schedule. She doesn't seem to remember what she did yesterday or connect that with what will happen today. You can help her focus her attention on the sequence by reminding her of each activity before it occurs and by recalling the events of the day together before she goes home. With your help she will soon be able to predict what happens next. Each day she verifies the sequence by reliving it. Similarly, if Mark and Jeffrey make a map of the playground in the sand table and cannot remember where to put the swings, they can go outside to take another look. In this way you are guiding them toward finding answers through their own experience, thus helping them to become confident learners who think for themselves.

Conceptualizing

A concept is an idea of something, a picture, a set of assumptions. A concept is not the same as objective reality; it is an individual's thinking about a particular aspect of reality. When we speak of conceptualizing, we refer to the process of building a picture or an idea, the way one comes to visualize how things are or how they happen. We cannot assume that young children's concepts are the same as ours or that they conceptualize in the same way we do.

Concepts grow with maturity and experience

Concepts are not static; they change and grow with further experience and thought. Your concept of *mother**, for example, is coloured by your experience with your own mother and other mothers you know. Your concept will certainly change and grow if you become a mother yourself and will continue to change as your children grow up, especially if you have a daughter who in her turn becomes a mother. This concept of mother is more than its logical dictionary definition, 'a female parent.' Even to understand that definition one would need to have a concept of 'female' and 'parent.'

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* If you are male, please substitute *father* for mother in this example.

Concepts are not equivalent to facts although to the person who holds them they seem self-evident. You may, for example, assume that your five-year-olds share your concept of numbers as abstract, related entities. Your concept of 'five' includes the fact that it is the sum of two and three, that it is one more than four and one less than six. Five remains five for you whether you use it to enumerate five pennies, walk to a house at 5 South Street, teach five-year-olds, or buy five pounds of flour. To the young child, five may seem more like a name, something to be recited in a sequence of other names, rather like letters in the alphabet. She may collect six objects while happily chanting 'one-two-three-four-five' with no sense of incongruity. Her concept of number is not the same as yours. It will change and enlarge during the year as she has more experience with using numbers in many different meaningful contexts.

Reasoning

Reasoning, like conceptualizing, is a mental process. It refers to the way an individual thinks about things, puts ideas together and explains things to himself or others. Again, young children do not reason quite like adults—but they do reason. Reasoning involves making connections: between the hot sun and the hot slide, yesterday's rain and today's puddles, Jenny's vigorous shove and Jamie's loud crying. Children sometimes fail to make connections like the ones above which seem obvious to us. They may, on the other hand, assume connections that seem illogical to us, as when a child bangs her own thumb with a hammer and berates a passer-by, or a three-year-old confides to a teacher who lives across the city from him, 'I was coughin' last night. Did you hear me?' They sometimes connect two related phenomena but confuse cause and effect:

Young children's reasoning

Know what makes the wind? It's the trees waving.
The nasturtium leaf was peppery, Debbie, because I had a drink of water.

On the one hand, young children's reasoning seems limited by their perceptions. On the other hand, sometimes they steadfastly ignore the evidence of their eyes. A group of children who were convinced that stones would melt in boiling water to become stone soup were unmoved by a demonstration to the contrary. They claimed that the stones were 'a little smaller' after an hour's boiling. The fact that the stones' weight on the scales was unchanged and that they still filled the outline the children had drawn around them earlier was unconvincing.*

In fact, demonstration, even if based upon the children's own experience, does not lead automatically to changes in thinking. Another group of five-year-olds made a list of all the things they expected to see on their walk in the wooded pasture adjoining their playground. Their list included deer, raccoons, bears and a monster. On their walk the children saw grass, trees, beetles and an airplane overhead. They heard bird calls and a squirrel chattering. When they returned, they made a new list of the things they had actually encountered on their walk, making no reference at all to large animals or the monster. But when the teacher reminded them of their predictions for purposes of comparison, some children found ways to justify their original ideas:

Did you see a deer or a raccoon?
  I think they were hiding.
Did you see a bear?
  I think I saw the side of one in the woods.
Did you see a monster?
  I might have heard one.

An example of how children's reasoning is limited by their perceptions is a child's certainty that there is more clay when he squashes

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* *Wally's Stories*, Vivian Gussin Paley. Harvard University Press, 1981.

Difficulty in considering more than one aspect at a time

it into a pancake. The adult knows and therefore finds it visually obvious that the clay does not change in volume when its shape changes. But the child is not yet able to consider two aspects of the clay simultaneously, to realize that an increase in one dimension is compensated for by a decrease in another. This inability — or, we should say, limited ability — to consider more than one aspect of a situation at a time is characteristic of young children's thinking. They tend to see facts and feelings in isolation rather than in relation to other facts. If one fact contradicts another they tend either to ignore it or explain it away or even to hold it comfortably in mind without any apparent discomfort over the contradiction.

How Kindergarten Enhances Conceptualizing and Reasoning

Having discussed some of the differences between adult and child thinking, we will look at how the kindergarten experience helps change and enlarge children's concepts and helps them become more aware of patterns and relationships. This can happen in a way that is consistent with the goals and methodology expressed throughout this curriculum.

Dramatic Play

Taking on roles

Imagining

Adapting

When taking on another role, the child learns how it feels to be someone else. For several months Michael consistently played in the house corner, usually taking the part of a father. In this role he would engage in such activities as going off to work with a briefcase, talking on the telephone and writing messages, drinking coffee with another father while holding a baby doll on his lap, or taking his family on a ride. Through his play, Michael experimented with different aspects of a father's life, caring for babies, dressing up ('My daddy wears a tie almost all the days') and 'working in an office like a daddy.' His concept of 'daddy' was enlarged by his play. At the same time he was working out his own ideas and mastering such obstacles as tying a necktie and constructing an office, Michael was forced to reconcile his ideas with those of other children. Keeping their play going harmoniously required them to resolve questions like how to accommodate more than one daddy in a house or where to go on their car trip.

Dramatization

You may sometimes capitalize upon five-year-olds' capacity to 'learn by becoming' to enrich and extend their concepts of certain things or processes. For example, in a creative movement session in the gym they can experience in their very muscles the contrast between a curled, immobile pupa and a freely moving butterfly.

Discussion

Playing with ideas

Discussion helps children examine and clarify their ideas. Discussions may arise from children's play, from a book, or as part of planning or recalling a group event. Shared interests may lead you and the children to speculate on such subjects as what you would wish for if you could have anything you wanted or how a frog could keep warm in winter. The purpose of such discussion is not to arrive at a particular right answer but to accustom the children to playing around with ideas, to putting their thoughts into words and sharing them with each other. This kind of discussion and a generally relaxed atmosphere in which children's remarks are accepted and listened to, encourages them to toy with ideas as all creative thinkers do:

Our dog likes kids. If he didn't, if he bit them, we'd have to keep him in his doghouse all the day and *all the night.*

A frog couldn't go under a horse to keep warm, could he? The horse is too tall; there would be too much room.

Materials

Manipulating

You will help children to understand cause and effect relationships by giving them many opportunities to have an effect on materials: making tracks through sand, mixing paints, pounding clay, stacking blocks or hammering nails.

Using these and other materials representationally helps children explore or consolidate ideas. Explaining his block farm to his teacher, Jeff says:

This here's the barn and these are the pastures.

Why do you have two pastures, Jeff?

One's for dry cows and one's for milkers.

Why do they need to have separate pastures?

Well, see, the milkers come in right here to the barn.

And don't the dry cows come in too?

No, they don't need to. They stay out here in their pasture.

Explaining the model

Building the farm helps Jeff pull together his knowledge of how his family's farm is laid out; explaining his construction to his teacher helps him begin to think about why the farm is organized the way it is.

Perceiving relationships

Children's growing ability to manipulate ideas, see relationships and think flexibly, is often manifested in their use of materials. John gathers up sawdust to use on his collage, Susan sprinkles sand on her painting and Ralph takes a fork from the housekeeping corner to make prints on his clay. Such experimentation will call for flexibility and judgment on your part. You may have to weigh Ralph's need for experimentation against Tony's need for predictability and order, for example. Even when you must set limits, however, you can do so in a way that recognizes and approves the child's creative thinking.

Through dramatic play, discussion, manipulation and experimentation with materials, through active participation in group living and through the exploration of their environment, children will form new concepts and enrich their old ones. They should gain confidence in themselves as thinkers in the process.

Where do you think these stones come from?

It must be from near the water because they're so smooth.

BASIC CONCEPTS AND LOGICAL THINKING

In any of the following categories it is emphasized that all learning at the kindergarten stage is rooted in the manipulation of real things. Discussion of the ideas may certainly be part of the development, but it is activity with concrete materials that provides the catalyst.

Classifying

Sorting

When children note similarities and differences they are classifying the items involved. When they sort collections into several piles, each pile represents a class. Practice clarifies different categories for them and talking about it develops vocabulary to consolidate the experience.

Identifying attributes

Classifying is done by identifying attributes in the items. Children start by identifying one similarity and later progress to two. Identifying three attributes is a development beyond which most five-year-olds will not go. If something is long, red and soft and is therefore different to something, short, blue and hard, the three variables involved are problematical for some and require plenty of practice for all. Some can classify to an impressive degree because of a special interest. Sarah can sort vehicles into cars and trucks as could most five-year-olds, but John and Evan have many different categories. John knows the make and Evan knows the owner of each car, and they mentally sort and classify under those terms.

Sorting materials for junk sculpture collections, putting toys back on shelves, tidying 'groceries' in the playhouse, and spotting similarities in stories and songs are all classifying experiences for the kindergarten.

Block storage is most commonly organized so that there is a place for each kind (class) of block. Children sorting them at clean-up time by name or shape are practising classification. Do you have the outline of each block drawn clearly and fixed to the shelf where the block is to be placed? Maybe the written name for each particular block is fixed there too.

Sorting books

If you have shelves on a book rack that range from narrow to wide, children will easily be persuaded by situation or by suggestion from you to sort (classify) the books according to size. Three categories, large, medium and small, could be suggested, or all the books about animals, or all the story books and all the reference books — children will think up categories and should be allowed the practice.

Sometimes it is noticed that several children have T-shirts of the same colour. This discovery could lead informally to a division of children by colour. 'All the children with blue shirts on, come and sit here,' you could suggest. This is done quite informally, perhaps at group time, and always for fun rather than with too much solemnity.

Store play

Making a collection of boxes and cans for a grocery store leads to much classification, and storage in the playhouse encourages putting away in different categories. All the cans of soup and boxes of cereal will have their proper place in the store, but all the things that need to be kept cold will go in the fridge. Each 'all the things' is a separate class.

After a weekend trip, a child often brings in a collection of 'found' treasures. One or two children examining the collection may undertake to sort (classify) the items into groups. The classes they choose will differ. Maybe they will sort by number, size or colour, or maybe by liking and disliking, or sharp and dull. It doesn't matter; they are practising classification. Piles of rocks, shells or handfuls of wild flowers and grass are learning materials in many different ways.

Use oddments for sorting

The box or can where you keep all the odd missing or found pieces of games and puzzles around the kindergarten (everyone has one) can be occasionally emptied onto a table for sorting. Putting away in a correct place can be part of the game and is practical as well as a learning experience.

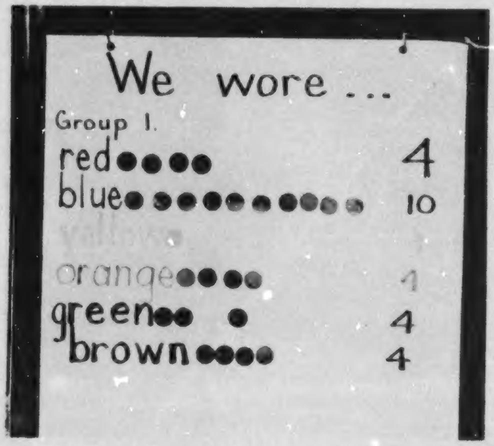
Following a discussion at snack-time, about the different food people eat, the teacher brought a collection of foodstuffs in to kindergarten and left it on the cooking table. Noticing a few children there during the session she joined them and asked them about what they saw on the table. They talked about likes and dislikes, grown and bought food, and finally, at the teacher's instigation, and with her help, sorted them into fruit and vegetable categories.

Graphing

First, use real objects

Graphing is an extension of classifying. Suppose that children have sorted their footwear into groups labelled 'sneakers,' 'boots' and 'sandals.' Comparison of these groups of shoes constitutes a graph. The shoes are ranged in rows which makes visual comparison easy and kindergarteners will quickly see which are the longest and shortest rows — the two variables which will have most meaning for them.

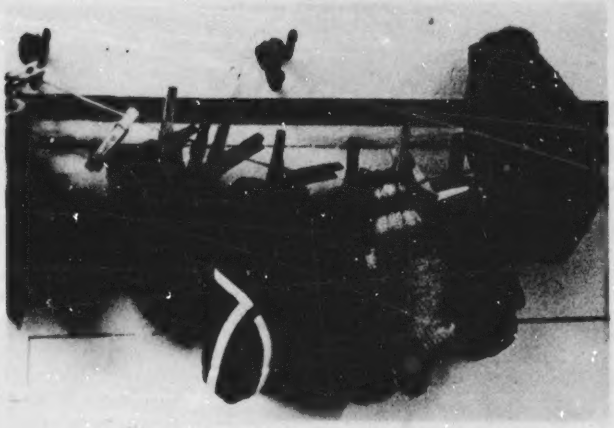
This kind of graphing, with piles or rows of real things, is necessary for children at this stage of thinking.



When similar groupings of clothing, toys, food, etc., have been ex-

Next — transition stage

perienced with the children at discussion time, a more abstract example could be used. Classifying the children according to their mode of transport can be done concretely by grouping the children in classes called 'bus,' 'car' or 'walk.' In this case each child could be said to be symbolizing his mode of travel, but a further development would be to ask each child to draw a bus, or his car, or himself walking to school. The drawings, stuck to a chart, symbolize the children's travel, and 'more children,' or 'fewer children come by bus' can be interpreted from the rows of pictures.



Finally — abstract symbolizing

Thus the graphs are gradually, over several weeks, developing from a very concrete form of representation to symbolic forms. Eventually, a slip of paper with a name on it can be fixed to a chart classifying 'snacks we like' or 'the pets we keep,' etc. By then most children are likely to understand the substitution of a written name for the real thing. It is important to reinforce with concrete examples in informal ways from time to time.

As adults we know that we have dinner dishes to wash later, but it isn't until we see them piled up that we realize how many there really are. So you could ask in the playhouse, while eating a 'meal' with a 'family,' 'do we have more plates or more cups?' and help line them up for comparison. With some number equipment it is easy to find opportunities to ask about coloured beads or pegs or articles from a box kept specially for sorting and counting. Coloured plastic clothes pins or thread spools or collections of pennies are good items to keep on the shelves for this and other uses.

'This rabbit is getting fat' said Julie. 'He ate all that lettuce I brought, you know.'

'He was just little when we got him' said Tara.

'Shall we see how much he weighs?' asked their teacher.

Physical graphs

The teacher wants to encourage the development of graphing as a representational way of keeping a record. The children have made many physical graphs with lines of mittens and gloves, coloured buttons from the sorting box, and so on. They used blocks to show how many boys and girls were in kindergarten one day and are adept at practices like putting out paper cups to show snack helpers how many places to provide for a snack. The class rabbit is growing fat and big but the teacher knows that the daily weight differences are not significant enough for small children to register, and to wait until they are would take too long for the children to retain interest. But they have weighed things against a number of square blocks, and so next day when the rabbit has been fed and petted she suggests weighing him.

Predicting

When they have found that Snowball weighs the same as 9 blocks, the teacher produces a large coloured paper and suggests they draw the pile of blocks. The paper is squared, which helps them to make the blocks equal in size. When they have done it the teacher asks if they think Bambo is heavier or lighter than Snowball. Bambo is a large teddy bear who lives in the reading corner. The children guess both heavier and lighter and so Bambo is weighed and graphed. There is a noticable difference in weights and the children can verify it there and then (and incidentally tell the difference for themselves by holding both animals in turn).

Estimating

Mary has often talked about her cat and asks her teacher if she can bring him in for a visit. The teacher agrees. 'What do you think he would weigh?' asks the teacher. As it happens, Mary watched her father weigh the cat and remembers . 'Just exactly a kilogram.' 'How *many blocks is that?' Mary looks perplexed. She can remember Daddy saying 'a kilogram' but it has no practical meaning for her as yet. The children who weighed Snowball and Bambo make several random guesses. Estimating is a useful skill that children should be encouraged to practise. Tomorrow, they will weight Mary's cat against the blocks, and add the result to the graph. Their guesses about his weight will be tested against their findings and with practice, their estimating will become more skillful.*

This kind of experience with significant visual differences in the graph columns, and with practical instances and interests involved, should have more meaning than the small, slow increments resulting from recording Snowball's growth.

Counting

Cardinal number with its quality of invariance — 6 is 6 is 6 however you stack the cookies — is present in all the activities kindergarten offers. Some children will touch six objects and count to ten; the one-to-one relationship needs emphasis in situations such as the playhouse (where a chair is set for each family member, plates match cups in number, and each cup has its saucer) and routines (a mug of juice for each child, a coat for each locker).

Experiences of this kind will help them begin to count one place for each object touched in a group. Counting the paint brushes to put out on the easels, or the scissors to make sure all 8 pairs are there at clean-up, are practical experiences of number. Putting things in marked places allows children to see what is missing and count how many. 'There are 4 spaces on the calendar — 4 days to my birthday.'

A sign-up sheet that has 5 discrete places for the 5 children who are to do the cooking helps them understand more than and less than as well as the exact content of 5. Fewer than 5 children and there are blank spaces, more than 5 children and there is no room for them; exactly 5 children matches the spaces perfectly.

Other contrivances of this kind will add to the multitude of situations which help children become familiar with not just the symbol or the word but the whole concept of numbers.

Seriating

Seriation, which is a thinking process that develops quite naturally out of classifying, also has many examples that occur naturally in the kindergarten. With classification the *similarities* between items are of most significance, whereas with seriation it is the *differences* that children must notice. The distinction between two extreme attributes is clearest for the children to grasp, and they can identify the biggest and smallest in a group. The rest are clubbed together in the children's perception at first but as they become more practised, they will be able to range the 'in-betweens' as well. The longest and shortest line of objects may have several lines of things between the two extremes, and some children will be quicker than others to realize that there is a sequence from low to high, short to long, and few to many. Three places, however, is as much as many five-year-olds achieve — big, medium and small, for example.

Distinguishing differences

Begin with dramatic contrasts

Concepts of ordinal number are included in this range of categories. If there are three groups of sorted objects it becomes clear, at a later stage of development, that there is a first, second, and third place for those groups. It is helpful to make seriations as concrete as possible; children easily recognize 1st, 2nd and 3rd place when lining up to use the playground slide.

Use real situations

There are many pieces of equipment that emphasize seriation skills — the jig-saw-puzzle type of cut-out with three sizes of bear or baby, Montessori-inspired materials which use wooden columns of various length and thickness, graduated rings or other geometric shapes that fit over one another, and so on. Small equipment such as beads, blocks and the good old button box can all be used for seriation practice. If you want a fairly formal activity, there are cards which show a story in time sequences, to be ranged in order, and sequences of coloured beads and blocks to be copied and completed. Informally, children can complete a series of objects begun by the teacher, and their attention can be drawn to series and repetitions of pattern that occur naturally in the course of work and play.

Formal and informal practice

Stories, songs and rhymes — particularly the traditional ones — often feature patterns and sequences. 'She'll be Comin' Round the Mountain' is one, where the actions at the end of each verse have to be recalled in order, and the stories of 'The Three Bears' and 'The Billy Goats Gruff' have great-big, medi-

Traditional songs and stories

um and small members of each family. Most stories clearly have beginnings, middles, and ends.

That there is an order and sequence to our lives is something that children come to depend on from an early stage. Whilst too much inflexible order is restrictive, children whose lives contain no recognizable order often suffer from disorientation as a result. Children like to know, as we do, that afternoon follows morning, and supper can be counted on before bed and not after.

Some children are playing with cars in the block corner. They line them up in order of size. 'The biggest one goes first' insists Gillian. 'This little one is last' finishes her companion, lining up the rest in between.

The teacher is sitting with a small group who have finished with a box of coloured crayons. Before they are put away, the teacher takes a handful and lays them out on the table. 'Red, blue, green. Red, blue, green' she says. 'Red — what shall I put next?' As someone supplies the next in the series she encourages the children to take over. Then they may make their own sequences.

Looking for the right block with which to fill in a gap in a building Brad has to make comparisons, because one block is too short and the other too tall. Putting blocks side by side he can see the medium one which fits. His teacher supplies some vocabulary as he does the job. 'That one seems to be too long, Brad.' 'This,' says Brad, 'is too short. Here's the right one — not too long, not too short.'

As they finish clean-up, the children join Ryan's mother in the reading corner. She has come in to help and the teacher has asked her to act as a focal point until the clean-up is completed to the teacher's satisfaction. Ryan's mother claps a rhythm — simply and clearly. She asks the children to repeat it. They all clap the rhythm in a repeating sequence. Then she will encourage individual children to clap their own rhythm for the rest to copy. A tape-recorder can be used to advantage here, playing back the sequences to the children afterwards.

You will find more ways of devising seriation patterns or of helping the children identify them in the world around them. You may be surprised by the instances they come up with on their own when you have made them aware of recurring patterns in their environment.

Spatial Concepts

Moving

Manipulating

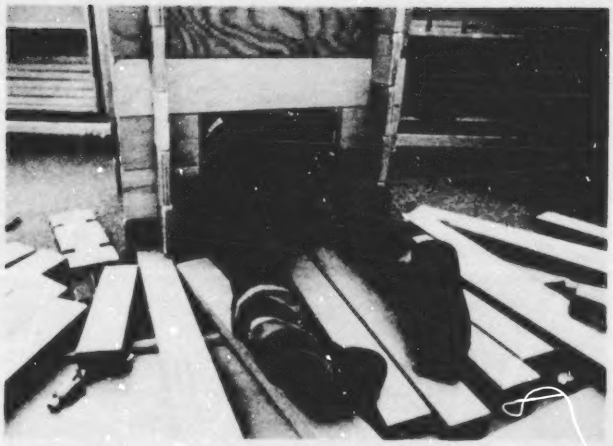
Developing vocabulary

All movement has a direct relationship with space, but we tend to define space in terms of the objects existing within it. Children are first aware of their bodies in space. At five, they are still experimenting with movement and we want them to explore and make relationships between themselves and distance, other things and people. Using their bodies to move this way they understand 'on' and 'under' and 'in.' They do this through physical contact and manipulation of things, changing aspects of space by moving objects in and around each other. Pictures of cats on pianos, for example, and cats in and under pianos do not have the same effect. Climbing on the stairs, putting a toy in a drawer or squeezing under a table are physical experiences that give real meaning to the spatial terms. Vocabulary, modelled by you and used by children, consolidates the experience.

Greg climbs on a chair to reach the shelf over the sink. 'It's too far,' he complains. 'I need a more taller chair.' 'It is high, Greg,' says his teacher. 'I think it is too high for you to climb, even on a taller chair.'

Keep close to the children's own experience

With experience children form mental maps of the spaces familiar to them — home, school, the playground — and move confidently and quickly because of their experience. Their knowledge is limited by their experience, too, and whilst David knows that he lives in Minto, he has only a vague concept of New Brunswick and of Canada. It is hard for him to realize that he lives in all three at once! Looking at a map of Canada is too abstract and a globe does not look like the world either you or David knows. It is asking too much of him at this stage of development, to deal with the abstraction of one place being part of another, so let him live in



Perceiving relationships; a gradual development

Minto *or* Canada, but don't expect him to understand that he lives in Minto which is in New Brunswick which is in Canada. If you want him to develop that concept, you could give him lots of nesting boxes to play with, or Russian dolls that are fitted one inside another, and don't emphasize any relationship between this and the other issue. Let him absorb the concept through his play, and make his own connections in due time.

Pictorial representation

Making relationships (see Sand *and* Water *sections)*

Drawing pictures of 'where my house is' is the beginning of map conception, along with physical layouts in the block area which replicate a known or imagined location. Drawing 'all the things we saw on the the way to the Fire Station' on a long mural paper to induce sequencing helps children's location-in-space conceptions. Sandbox mapping often occurs during play; and children may cooperate in linking one construction with another by the road which a third child's truck is travelling. More complex road systems often evolve, including bridges and tunnels, junctions and crossroads.

Room organization

Problem solving

Extending vocabulary

Shapes have a strong connection with our use of space. Adults arrange pieces of furniture according to the shapes they fill in the space of an empty room — long and low, or curving — in contrast or complementary to the rectangular shape of the room. Putting together puzzles, tidying materials onto shelves and hanging clothes in the playhouse closet gives children experience of shapes in space. This kind of activity involves classification, co-operation, and the beginnings of reading. It also helps to build spatial concepts. Pushing too much into a cupboard forces the door open, and a deep box just won't go on a narrow shelf. A rectangular box is more likely to go onto a rectangular shelf, however, than into a round space. Using the geometric term is one way for you to add to the experience. You can help children recognize shapes in the environment and provide the geometric vocabulary that goes with it: circles squares, edges, angles and lines, etc.

Sensory awareness

Adapting

Exploring space while blindfolded and recognizing objects and other children by touch concentrates attention on shape and texture. By temporarily depriving them of sight, you encourage their exploration of the shape of the familiar things they hold. Reaching towards voices, and finding that the space is much more or less, or in other ways different to the way it is normally perceived, gives children another perspective.

Movement exercises which have the children filling or changing shapes with their whole bodies are another way to encourage their exploration of space. Spreading as wide as possible or as tall as they can, and then crouching and curling into a small circle, children feel their involvement with the space they occupy, and extend it if you suggest moving with a friend in these ways. You can provide long loops of elastic and tubes of stretching fabric to contain children and emphasize their pushing, stretching and changing shape patterns.

Exploring space through movement

When they leap through space, either from the ground or from a height onto a lower plane, they experience another relationship between their bodies and the space around them. For moments they don't have contact with the ground at all and are entirely contained in space. Can you help them be aware of this momentary freedom from the surrounding physical world? Tell them what you saw, their shape spread out and off the ground. The chances are good that they will repeat the leap and be more aware of what happens when they do.

Temporal Relations

The sense of time develops slowly in children. Aware of discrete happenings in their lives, they have a problem relating them to each other in a continuum. 'Before' and 'after,' 'then,' 'now,' and 'this time last week' have confused meaning for them. They are in a transitional stage for the most part, more conscious than they were of changing times, but less than they will be next year. They live in the here and now and the present is more easily comprehended than past or future.

You have heard young children tell you what they did 'tomorrow,' and it is common for them not to realize whether it is morning or afternoon. They remember having lunch, and can time events in relation to such stable routines as bedtime and breakfast time, but tomorrow — 'after this night' — is difficult.

Predictable routines

Fix time for the children in your kindergarten in relation to activities: 'We go to gym after we have snack.' 'It's book-time now. Later we will go outside.' They will begin to anticipate the routines of the day. Although activities should be free-flowing and amenable to change from time to time, if the overall pattern is consistent and sequential, children will be able to 'time' time by it. Space and seriation and time considerations are all affected by children's involvement in the daily routines that they can count on — breakfast follows rising from bed and precedes going to school. Removing outdoor wear precedes coming in to the kindergarten, and after clean-up is book-time, followed by snack-time. Gym may come before snack sometimes and later than snack at other times, but as long as the whole session has form, some temporal changes are acceptable.

'Clock time'

The passing of time in relation to the movement of the hands of a clock is something that develops as children relate these daily sequences to hours and minutes. Given experience of five minutes to finish their painting and their clean-up, for example, they will get the feel of five minutes being short, but not as short as the minute which you may offer them in which to listen to the quietness of the room. But long periods of time register no more to a five-year-old than 15,000,000,000 dollars, or miles or even years does to most of us. 'A long, long time' is the best we can probably manage.

Representing

Birthdays are significant times eagerly looked forward to by most youngsters. Charting days before anticipated events like birthdays by means of squares representing days which are coloured in or crossed off helps them to be aware of the passing of time and the inevitability of tomorrow's arriving. A pile of blocks or a threaded row of spools could also help the process. A clockwork timer in the kindergarten, if it is used without intention of regulating and constricting time, can help children gauge how long they need for an activity or how long they took. 'How long before we go to the farm?' can be answered by relating it to an activity more meaningfully than by relating to a time. 'Directly snack is over' or 'When this story is finished' is more real than '2:30' or 'In an hour and a half.' If the children have experience of the 'five minutes before clean-up period,' 'five minutes before leaving for the farm' is likely to be meaningful.

Measuring time

Predicting

Using a timer for cooking or to compare activities such as hopping the length of the hall is helpful, and using a sand-timer, either commercial or one created in the classroom, gives a very practical example of time passing. A paper cone full of fine sand can be supported in a bottle with a little hole pierced in the base of the cone allowing sand to trickle through slowly. Comparing one activity directly with another also expands temporal consciousness. For example, a plastic bag filled with water at the sink leaks from a tiny hole. 'How many cups can you fill before this bag is empty?' you might ask the group involved with water-play, or 'Which bag will empty first, mine or yours?' (with a larger hole).

In spite of the activities which help to make them more concrete, space and time are still abstract concepts that are difficult for the children in kindergarten. As teachers we need to recognize the experiences which facilitate their gradual understanding. Beyond that, time will take care of it.

Language —

Through representation and symbolization children begin to move from the concrete toward the abstract. Verbal communication — spoken language — is one of the first forms of representation that children develop and it permeates most of the other forms — role-playing, dancing, block building; even writing, drawing, and painting are often accompanied by talking about the activity.

— as a basis for learning

In kindergarten we must provide an environment rich with opportunity for language experience and development. The ability to use language fluently, expressively, creatively and functionally will provide the best possible basis for all kinds of future development. Without it, reading and writing become bewildering chores, relationships with others are restricted, thought processes more limited, and the expression of ideas and emotions inhibited. As adults we have helped children learn to speak; now we must help them develop the art of functional and expressive speech.

Don't just allow talking; encourage it. Provide interesting things to talk about. Encourage children to talk and listen to each other and provide an example in the way you talk and listen — really listen — when they tell you things. Redirect some of their questions to other children by suggesting that if Judy wants to know what Paul is doing, she should ask him, and that if Edward wonders how the typewriter works, he could ask Tom, who seems to be using it most efficiently.

Be ready to help

Be ready to interpret for the child who has difficulty expressing his idea to another child, or complete the idea if he only voices part of it. 'Hey, remember? We'll use your tower for it.' 'I think Jack means that when we went to the firestation he saw those hoses hung up to dry and he would like to use your tower for that. Is that right, Jack?'

Listen and appreciate

Be an open and ready listener and for the sake of language awareness comment on the way things are told as well as on the subject of the communication. Notice where rhyming words are used, or the same consonant beginning for several words. Comment on a well-chosen word or just admire the whole message — 'I like the way you said that, Sarah!'

Expressive language

Sharing a joke or a sorrow with children helps them, in turn, to express emotions verbally. Talking about your own feelings not only lets them understand that teachers have good and bad feelings too, but models ways in which to talk about them. Telling a child 'I remember feeling very sad when I was little and my mother went to hospital' or 'It makes me angry that you eat someone else's lunch when you know it isn't for you' is an honest and contextual way to communicate with him.

Acknowledge concerns that children convey to you and treat them with a serious respect, not presuming them to be unimportant or exaggerated. Help children find ways to talk about things that bother them and then help them plan appropriate action to deal with the situation.

Understanding time sequences

When the children are telling you about events in their life, encourage them to tell you what they have been doing, what they are doing and what they will be doing later, so that they learn to relate activities in temporal terms.

Vocabulary development

Slip into everyday conversation words that may be new to them. They will notice and perhaps be able to use them themselves in context, surprising you with the way they picked up and understood what you said. Because you use such words in a natural way they will be more relevant and attractive to the children. 'Hold the egg carefully, won't you? Its so fragile'; 'Oh, you're really excited about that idea, I love your enthusiasm!' 'You can see right through this transparent paper'; and 'The poor princess was so sad, so unhappy, so desolate.' If a new and interesting word comes up in a story, try to use it during the day in other situations. There is a duchess in children's literature who tried to bake a cake that was luscious and delectable; wonderful words to get the tongue around!* Repeat your own interesting words, too; not to the point of deliberate repetition to 'Inculcate a New Word' but so the children hear it in a variety of situations. They will glean its meaning in the same way that they learned — for most of them, very successfully — to speak. 'Don't be sad that your model broke — it was very fragile'; 'You aren't very enthusiastic about jumping from that height, are you?'; 'Now we've put the picture on the window, it isn't transparent any more' and so on.

Functional language

Giving and following directions is an important part of language development, and deliberately standing back from a situation and describing what you want is helpful. 'The tape is in the red drawer at the top of the chest' for example, or at the sand-box, 'Why don't you make a road from the castle to where the red truck is parked?' Asking a child to describe to another how he made something, helps him clarify his thoughts and his speech. You could make a chart to show others how he did it, if you write down what he tells you. You could say 'I'm impressed with that model, Penny; how did you get it to balance like that?'

Give directions

Give short sequences of directions to see if a child is capable of following. 'Please put your crayons away and bring your book into the reading corner so that we can read it together' or 'Will you put your sneakers in your locker, and wash your hands before you get the milk out of the fridge?' Watch to see if the sequence is followed and if there is confusion be ready to repeat it so that the child can pick it up at the point he lost track of it. By the way, don't ask a question if you mean to imply a necessary action. We have all gone through exchanges such as 'Would you like to clean off the table, please?' 'No.' 'Well, clean it off anyway.' Better to have said 'Please clean off the table.'

Laying a good groundwork

In these and many more ways you will ensure that the children have plenty of opportunity to increase their ability and facility with spoken language. You will never have to reproach yourself for having denied them the time to practise social, expressive or pre-reading skills.

Symbolizing

Understanding that something stands in place of something else, represents something else, allows us to think and speak and make use of things in their absence. From their early years children find substitutes for their needs. The doll a toddler cuddles or the two crossed sticks a four-year-old 'flies' across the yard seem very real to them, but are symbols for the real thing.

Using and interpreting symbols

Children in kindergarten have already learned to use symbols and to 'read' them, too. Ask a four-year-old how old she is and she will respond by thrusting four stiff fingers toward you. Many children can follow an arrow, or recognize a 'Shell' gas station. We teach them to respect symbols we use for poison and danger. Their block buildings, drawings and models symbolize their understanding of known things and are emblems of their fantasies.

Provide paper for practice

There should always be copious amounts of paper of all shapes and sizes in the kindergarten. It should be freely available to the children on the shelves with materials for cutting, sticking, and stapling. There should be pencils, markers, crayons, so that children can draw and make marks and write, practising the small muscle controls of eye and hand co-ordination.

Encourage the timid child

Children are highly motivated to scribble, skillfully or not, and if materials are to hand they will do so. You may find a very rare few who are inhibited about their ability to draw. Avoid directing attention to nearby children who can and are drawing — this serves to inhibit a child even more from making an attempt which will be compared with what they are doing. Do not draw for him, which might also set standards with which he feels he must compete. Encourage him gently, sit with him awhile, and show yourself to be accepting of his effort. Don't, at first anyway, invite the attention of other children when he does begin to draw; he will need to build up some confidence in his abilities before he is willing to share.

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* *The Duchess Bakes a Cake*, Virginia Kahl

Colouring books and stencils — negative effects

Do not *ever*, with *any* children, use colouring books or stencils. They have been proven to inhibit children's natural creativity, stifling their imagination and confronting them in most cases with badly drawn and even unrecognizable images. Face up to the fact that they are a lazy and unnecessary way out of letting children draw for themselves. Eye-hand co-ordination (which is often used as a justification) is involved more effectively when a child concentrates on his own drawing. Do give them paper and crayons, markers, pencils, paints, and the opportunity to use them freely and creatively. We need not teach; children will learn through their own efforts.

Pre-school experiences

Development

Note — and encourage — development

Skills — and ideas

You will probably have some children in your class who have come via a network of day-care, nursery school, play centre and so on, who have had opportunities there and at home, and whose ability to use drawing and painting with skill is well developed. Parents tend to believe these children need to move on to more formal activities and leave the play world of paint easels and coloured crayons lest they become bored. In fact, children become more skilled and activities more complex as a result of prolonged experience in the right atmosphere. Painting styles mature with practice and age, in the way that the pictures tell more and more of a story, which can be written beneath by the teacher and/or the child. Instead of individual bits of a picture or painting being labelled 'my dog' or 'the sun,' what you are asked to write will be something like 'I am playing with my friend in the park' or 'We are picking apples in an orchard.' There may be more discussion of the pictures, not in terms of technical development necessarily, although there is a place for incidental comment on personal improvement, whether it relates to technique or content. 'Your picture really shows me what a sunny day it was, and I like the story you told me about the wolf and the boy. I'll write it down here and perhaps you will try to copy it in your writing.' Drawings can be collected and made into books telling stories, or depicting daily events like a diary.

Recording

Encouraging children to record things in ways which have meaning to them can produce drawings, for example, of the four blocks that make up the length of the wall in a building, or the seven footsteps that measure the distance between the reading corner and the door. Drawings can describe the growth a plant makes over several days (if indeed it grows appreciably in a short while; these children need to see the difference quickly to be able to believe in the actual growth) or how many quarters have been saved up for a trip to the zoo, or what foods the rabbit likes to eat best. According to their level of maturity they will be able to 'read' and to 'write' five cupfuls; first as ☕☕☕☕☕ and later as '5 ☕ ' or ' ☕ 5'.

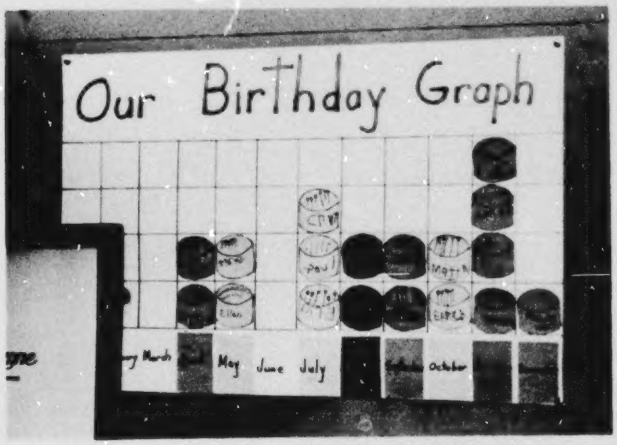
Tallying

Symbols

Even before children know how to represent three things with a numeral 3 they can make marks to show how many. Tallying, whether children recognize figures or not, is a valid way to record numbers of things. Using a stick in the mud, or a crayon on paper, a child can mark how many cars go past the window or pails of water are dumped in the water trough /////////// or X X X X X X . When the teacher asks all the children who like milk to drink to put a coloured paper square on a graph, she is asking them to use a symbol to represent their preference. (The use of concrete examples precedes such symbolic representation, as described in the section on graphs.) On calendars we see symbols for days of the month. On recipes for use with young children we use different, often pictorial, symbols instead of those in adult cookbooks. Making and interpreting symbols is an important part of reading and writing.

Labels, graphs and charts

As children mature they will respond to this kind of pictorial recording, using graphs or tallies, drawings or writing. Although some of the children may not be ready to use them, you will have plenty of letters, words and figures around the room for those who are. These should be contextual, rather than alphabets or cardinal number charts — labels on displayed pictures, and charts and graphs which say somesomething about the things the children are involved with. They will have been made with the children and will represent activities in which they have been or are active: a graph showing the gloves and mittens worn to school today, labels on the photos of last week's visit to the farm, a recipe for playdough or some brownies that were made by a group yesterday.



Their drawings and paintings have the words supplied by the child written beneath them. Their record of five cups, for example, could be labelled by you after discussion with them, 'Here are 5 cups of flour that we put in the bread today.' Use the words of the children because we are asking them to read, even if at this stage 'read' means 'repeat back what you have just told me.' Children are learning that what is written can convey the message to the reader exactly as it was originally spoken.

Discriminating words and letters

Beginning consonants

When such a message is 'read' back to you, you will initially be content with that, but as the weeks go by you will develop this kind of activity in several ways. If you find a particular child or a whole group are becoming interested in beginning consonants, you will draw attention to some as you write. You speak what you are writing so that the children gradually understand the connection between the individual spoken and written words. They need a lot of experience to recognize discrete words and will confuse letters and words and sentences at first, especially as we start by using whole sentences and only later break them into words. One child may recognize a word he knows — 'That says my name' or 'You wrote "daddy"' — and you take advantage of his knowledge to help any others involved in this activity. 'Yes' you might say 'and look, "daddy" starts like this other word you asked me to write: "dog." Do you know any more? Danny, how does your name sound, do you think?'

Writing down talk

Inventive spelling

Verifying

Constantly reinforce the link between the speech and the written word, not attempting to teach the phonic sound formally, but letting children hear you sounding 't-r-u-c-k' as you write it, initially slurring the sounds so they run recognizably into the word, and gradually separating the sounds to relate to the letters. Sometimes asking for help produces some hard thinking in a group, and it's mental activity that we are after, remember, making children think. 'How shall I write "building"?' You might ask, and different children will respond (if you have provided this kind of informal experience in the past weeks or months) 'b' or the sound /b/. Maybe someone will suggest the phonic sound or the letter 'i' followed by 'd' and maybe 'g.' Write it like that, look at it with the children and if it satisfies their needs for a label saying 'building,' accept it. You may have written the word before for someone, and he may remember, find the label in the place you keep such labels, and compare it. You two may correct the word, or you may just approve the comparison this child was able to make by saying something like 'You are really looking at those letters. Good for you! Do you want to write that word in your book? or 'Yes, that is a different way to write it. Let's look in the dictionary' (picture dictionary on the reading shelf) 'to see how it is usually spelled.'

Encourage children's spelling

The kind of inventive spelling that occurs as children begin to isolate the sounds that make up a word should be respected and valued. This will not reinforce incorrect spelling; on the contrary it will encourage children to examine the structure of words, and enjoy their experiments with sounds and letters. They will generally prefer the 'right' way to spell the word when they come across it, and you will try to recognize when children are ready for that, as in the instance above.

Using children's names

Before long they will identify words and letters that occur often in their lives and you will have found ways to help that recognition develop. A child's name, strong in ego-building content, is often the first word he recognizes and words that have the same initial letter can be readily picked out. You can make games of finding words that 'start like your name' at group time. (This can drag on endlessly. Keep it brief and drop it altogether if the children get restless.) Similar consonant beginnings and rhyming words are easily confused and classed together as 'words which have the same sound.' Games which identify these two separate categories can be used. Sometimes transition times between activities are useful for such games. Children can go from group time to snack, for example, by responding with their name to the rhyming word that you call, or by volunteering a word that has the same beginning letter as their name.

Consonant beginnings and rhyming words

Functional writing

The activities encouraged and emphasized in the kindergarten motivate children to write in order to accomplish an end. How can you remember to bring your sneakers tomorrow? Write yourself a note. Do we miss Jean and hope she's better soon? Let's write and tell her so. How can we remember that story to tell people another day? Write it down. There is no need to learn to write as an end in itself; it's a means to an end — a functional, motivated means.

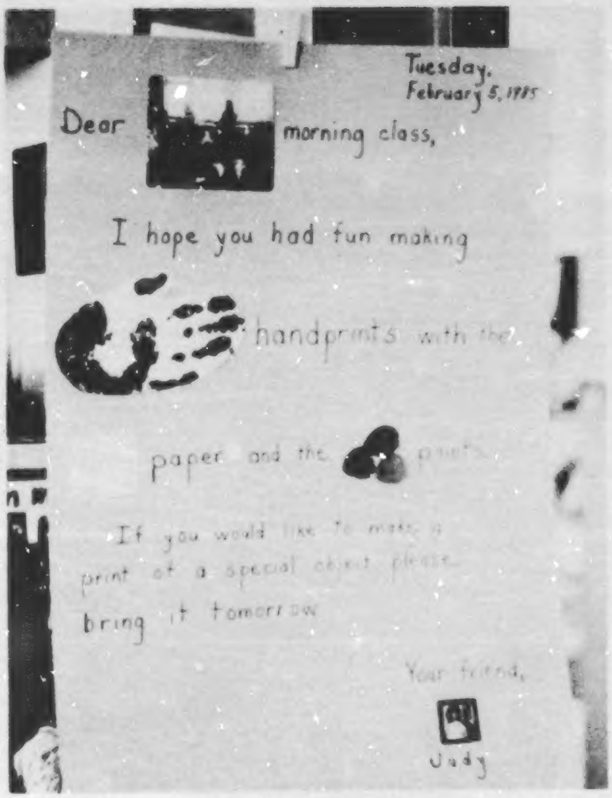
Typical of the way you can motivate writing activities is the following exchange between teacher and child: 'Did you bring that book you said you'd read to us?' 'Oh, I'm sorry, John! I completely forgot. Do you think you'd write a note to remind me?' 'I can't write; you know I can't write.' 'You write your name, don't you? That's writing.' 'Yes, but I copy the letters.' 'Good. Tell me what you want to say and I'll write the letters for you to copy.' When he has made the copy you ask for it to be put on your table or in your purse. What a reward it is for John when you explain to the group how you remembered the book they want to read!

'My hands are cold, Miss Miller. Mom forgot my mittens again.' 'Well, now you're indoors you can write a note so you don't forget them tomorrow.' (It doesn't hurt to remind her that *she* forgot her mittens, too, and should not always blame Mom!) 'I can't write it.' 'Then make a picture and tell me what you want me to write. Put it in your pocket and I'm sure you won't forget them tomorrow.'

'There's no paper towel in the washroom. The janitor needs a letter. Who could make one for him?' The janitor may wind up with a picture signed Sally, and a scribble which is Jane's way of representing adult writing and a note which has PAP TLL on it — all acceptable beginnings in the writing process.

Supporting children's efforts

Acceptable to us as educators, but what happens if the janitor can't read the note and lets the children know he can't or if Mom is not as understanding of your motives as you would wish? There are strategies. Avoid the problem if you think it will occur by attaching a note to the children's letter, explaining what is needed. To a mother, you could write that you value the children's efforts and do not want to discourage them so you are sending your copy of the note as well. Another strategy is to ask the writer to read back his note to you, to make sure he knows the content. 'Now you can read it to Mom and Dad if they need help.' If the note is for you and is indecipherable, you could say 'Somebody left me a note. Thank you — it's good to get letters from you. Oh, it's from you, Valerie. Great; will you come and read it for me?' Avoid discouragement but be realistic in that you and the children understand and accept that they are not totally competent writers



Tuesday,
February 5, 1985

Dear morning class,

I hope you had fun making handprints with the paper and the paints.

If you would like to make a print of a special object please bring it tomorrow

Your friend,

Judy

yet, but with time and effort they will be.

Progress

Gradually they will respond to the need for the ability to write and in writing, will improve the quality, learn how to construct words from consonants and later to use vowels, begin to use a picture dictionary and ask for help with spelling. They will gradually learn the relationship between individual upper and lower case letters, but they won't know which to use at first, and will be fairly indiscriminate about it. Soon they will know quite a lot about the use of letters to communicate meaning. That is of much greater value than knowing the sequence of letters in the alphabet. It's much more fun, too, and fun can be motivating. By the time you realize they know most of the letters you will probably find they can recite the alphabet too.

Modelling

By the way you model the usefulness of writing as you interact with the children you encourage and tempt them to follow suit. Phone messages, shopping lists, birthday cards and thank-you letters — even if some children are only able to contribute a signature — demonstrate some of the ways writing communicates for us. Charts which show what the rabbit likes to eat, who is to help with snack each day, what is planted in the pots on the window ledge and what the building in the block corner is and who built it — can be made cooperatively by teacher and children. Write *with* the children so they can see the letters being formed and following each other in sequence, with the words separated by spaces. Ask their help about what to say and how to write it. Say 'Shall I write "please feed our rabbit" in capital letters so that it looks important?' and 'Mrs. Blake's daughter has your name, Susan. How shall we spell it?' 'I would like mushroom soup from your store. Will you bring the can from the play-house so we can copy the letters?' You will find many ways of doing these things in enjoyable contexts so that writing is a pleasure and a pride and never a boring or arduous chore.

Make the task a pleasure

Sometimes it will be hard work and even frustrating, but hard work is worthwhile if children have their own motivation. If the task is imposed and without meaning for them, as is sometimes the case, it becomes arduous and boring. They will work harder and longer at making a note comprehensible to Mom than at copybook practice.

Persistence and challenge

There is no harm in encouraging children to persist, or improve on their own performance, or strive for excellence — do not feel that your intervention must never offer any challenge. Just be sure that the challenge is applied to activities of their own choosing or that they are motivated in some contextual way to accomplish.

Teacher's direction

You will see that while we talk a great deal about activities that arise from children's interests and self-chosen occupations there are other projects which are teacher-sponsored. They may arise because the teacher's keen observation of events in the kindergarten prompt her to introduce a project which develops what they are doing on their own. There are social niceties like thank-you letters that are activated after a visit. They are definitely teacher-provoked, but because the children are involved and the project relates to the experience they shared, it is acceptable in a self-directed program. The activities that you introduce will be available for the children to do if they are so motivated, but not presented as something they must do.

Whilst reading and writing are valuable accomplishments, their place in the education of the whole child must be proportionate. Like other kindergarten activities, they permeate but should not dominate the program.

Activities Using Names, Initials & Rhymes

- If you have letters to go home to the parents, have the children, not you, match the names with those on the lockers or coat racks.
- Sit at a table and print the names on the letters which the children are waiting to deliver. They will recognize some names, maybe. They will come back to you with names that have no letter as yet, and you can print them whilst they look on, matching sounds and letters as you do so.
- Have at least one name label for each child, laminated for durability, and kept in a convenient place. They can be used to identify drawings or models until the owner writes her name. 'Do you want to leave that uncompleted puzzle out until tomorrow? Put your name label on it.' 'Do you want to join the cooking group? Give me your name label.' 'What a good building! Why not put your name label on it?'
- The children can use their name label to trace with a finger, or to copy when writing their name.
- Often use the children's names on charts and lists so that they become used to looking at them and easily identify their own and others.
- Ask a child 'Whose name is on the helper's list for today?' rather than go and look yourself. 'I can't read it.' 'What does it begin with?' 'B' 'Is it Bill or Betty, I wonder?' 'Bill, because it has L' or 'I don't know. Is B-I-L-L Bill?' Strategies like this draw their attention to sounds and letters.
- Comment on naturally occuring situations that help recognition of initial consonants and rhyming. 'Just look at the list of things we saw on our trip — train, tractor, trap-door; all on our trip!' 'Hi, Harry! Hey I like your haircut! Well, this seems to be H-day; did you hear what I said?' 'Mary, put the label on the table, will you? Oh, I should have called you 'Mabel', do you know why?'
- Be aware of everyday incidents that focus attention on words, sounds, rhymes, etc., and have the children do the decoding in the above ways. You don't need the practice. They do. You can even play a little dumb sometimes. 'I have to write this name; please tell me the letters as I write, will you?' That you need their help is more motivating than that you want them to read letters.

The Reading Corner

See Setting up the Room *in Part II*

The reading corner, whatever name it goes by in your kindergarten, should be a place of pleasant, relaxed enjoyment of books, and is also of course a contributory factor in the reading process. Basic techniques such as reading from left to right, turning pages in sequence, reading the left-hand one first, and so on, are learned by watching adults' and other children's use of books.

'Reader-like' behaviour

'Reader-like behaviour' is part of the phenomenon — children recognizing the function of books and playing at it even if they can't decode and 'read' in the generally accepted sense of the word. You will have observed very young children 'talking through' a book, either repeating verbatim the words of the book or a synopsis of their own. That is but one of many reasons we should read and read and read some more to children, as teachers and parents and helpers in the kindergarten or nursery.

Time for books

There will be times when the whole group, or a few children during activity time, are using the reading area to look at books independently of your involvement. Allow time for this, perhaps after clean-up, or gym, and just before a story is read. 'When you have finished putting away your work you can go and choose a book to read.'

Teacher expectations

They know you mean that a certain kind of behaviour is acceptable in the reading corner, because you have modelled it yourself, and because you will have talked about your expectations on occasions with the children in that area. Quieter voices, consideration for others using the area, care for the books, are their responsibility whilst enjoying that time.

Comfort

To be comfortable, whether on

a couch or on cushions or even sprawled on the floor, is conducive to enjoyment. A soft toy to cuddle, especially if it comes from home, can help with the overall atmosphere of pleasant relaxation.

Helping individuals

How can you use this opportunity? If you are sitting amongst them, observing who is really involved and concentrating, and who chooses book after book, flips through and tosses it aside to choose another, you will adapt your behavior to suit both needs and the needs of all the children in the range between. The 'flipper' would benefit from your sitting alongside and looking through the book she has chosen. By pointing to features in the illustrations, you momentarily still the turning pages. Comment on what you see, ask open-ended questions 'What would you do if one of your cookies jumped out of the oven?' — and if necessary say something like 'Don't go too fast; I'd like us to see the pictures a little more closely.' Possibly a few more children will gravitate to your side, and you can, with an arm lightly around the 'flipper', move into reading the story. Keep a slight emphasis of attention on the original child so that she doesn't feel her book has been taken over by you and the others.

Expectations

Keep any child's attention with interest and some gentle persuasion, but not with your insistence; the greatest emphasis should be on willing enjoyment of the book area. That does not mean that you allow disruptive behaviour. Because of your attitude throughout the whole program, both implied by your behaviour and explained directly in relevant situations, the children will know that you expect them to be considerate of each other's activity. 'If you are not interested in looking at books just now, you know that you may go over and choose a puzzle to do quietly, but you may not disturb us when we are reading.' Have one or two activities, like puzzles, that are alternatives, but that will be used without noise.

Reading to a small group

Sitting with a small group and sharing their book will probably elicit requests for you to read. A quiet reading with this group may bring everyone around you, and may not. Children who are interested in their own books will not be disturbed by your reading. If you are comfortable on the floor with the children, several snuggled beside you, this is an intimate and involving way to get the most out of a book. Some of them can look over your shoulder, and even if you prefer to sit on a chair or stool, they can stand beside and around you if they wish. In these situations, hold the book so that it can be seen as much as possible whilst you read; some children may be following your words in the text, identifying capitals, relating what you say to the pictures; and this is valuable. The closeness and sharing helps the social-emotional involvement with reading and relates to what we mean by holistic learning and integrated curriculum.

Reading to the whole group

When you read to the whole group, it is less easy for everyone to see the book. A few — maybe only two — will be able to look over your shoulder, but whether this happens or not, be sure that you share the book and not just the story. Some books will lend themselves to this more than others; simple text is particularly appropriate. When, for example, you read a story with an oft-repeated phrase that the children begin to recite with you, as in the Gingerbread Man or Jack and the Beanstalk, turn the pages towards them so they see your finger underlining the words they recite. If a word is capitalized in the text, let them see that word and hear you emphasize it as you read.

Mutual enjoyment

Sometimes you read or tell a story that is so involving and dramatic that such incidents are intrusive. This is especially true of some stories which you tell, without a book, when you won't want to break the spell of shining eyes riveted and bated breath hanging on every word you say. You will surely know when your story telling has created a magic spell of absorption like this that should not be broken by inappropriate comment. Telling, rather than reading, is more likely to have that effect because of the direct eye and voice contact between you and the children. Whether you tell a story you know well and enjoy, or a personal anecdote from your own experience, the children are more likely to give you rapt attention.

It is never too early to encourage the love of literature for its own sake. That can enrich their lives even if they *never* learned to read, but if they have it, they are more likely to develop a determination to read, and soon.

Other readers

There are other reading corner techniques that foster both listening and reading skills. If you have an early and proficient reader she could read a short story to a group; short, because most beginning readers find it hard to hold the attention of a group for long and this must be an enjoyable experience for everyone. Visitors or other children from Grade 5 or 6 can be invited to read to individual children or small groups. Sometimes you can choose to read a book with a predictable sequence so that listeners can foresee events and enjoy their inevitability. Some are written with that feature in mind, and some traditional stories follow a pattern of events, too. If you turn the book toward the children whilst you all repeat these phrases, be sure everyone can see the words, at least well enough to find them when looking through the book later. Be careful not to swing a picture round the group so that those at the centre of the arc see clearly and those at the edges suffer frustration that disturbs the group.

Adapting stories

Don't be afraid to adapt stories for special effect, such as including your children's names in the action, and even asking their help with the events. It could be in adapting a familiar story or inventing a new one that you ask, 'What did you do then, John?' and allow him to direct the action of the story, which you will develop to include another child. You might say, 'And the mother and father had a little baby — What was his name, Mary? Oh, Belinda; of course! — Well, Belinda grew up,' etc.

Dramatizing

This is one of the ways in which a teacher can lead the way into dramatization. Involving children in incidental ways in the story being told or read can develop into the acting-out of a really familiar, oft-read story. When you have been asked to repeat a story the moment it is finished, and then tell it again next day, and again, until it is an old and familiar friend to all of you, it is probably time to say, 'Let's act it out.' There will be no need to tell the children what to say, just to decide who will be who. If there is great demand to play one part, then let there be three foxes in this story, or repeat it several times so that each actor gets his turn. Adapt the story if it seems appropriate, to include another character or two. There's always room for a different animal or person to cry out, 'Stop, little Gingerbread man; I want to eat you up,' and be included in the list of people he has to run away from. There's probably room for three trolls to lie beneath the bridge shouting, 'WHO'S that trip-trapping over my bridge?'

Traditional folk tales

'Acting-out' stories

You may need to act as narrator in order to keep the flow of the story going, but maybe your only involvement will be as appreciative onlooker. The children will see no incongruity in using the whole room as stage. Perhaps you can arrange things so that the audience can follow wherever the actors go or perhaps you will want to say, 'Just in this area here.' You can have a few ground rules such as defining the area where the action takes place, but remember that this is an active re-telling of a story rather than a theatrical performance. You will not ask the children to rehearse their lines but you may want to encourage applause at the end.

Open-ended questions

Please don't follow any story with a list of right-or-wrong-answer questions like 'What did the rabbit do on Monday? — Right, he went to market. What did he see in the market?' Rather, let the children ask the questions which occur to them, and perhaps direct them back. 'You ask why did the man run away? What do you think, children? Why did he run away?' Ask questions, if you wish, but make them open-ended: 'What was good about this story?' 'What didn't you like?' etc.

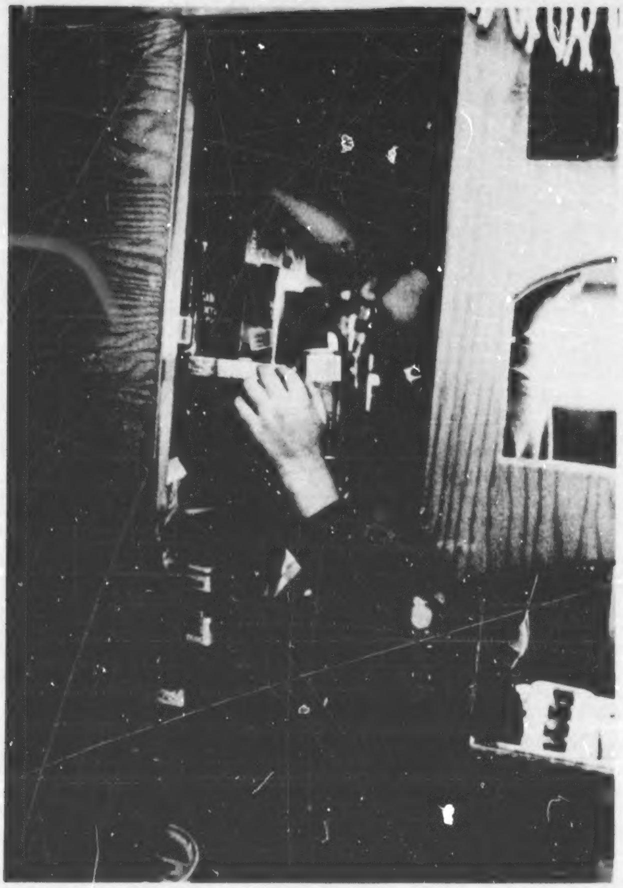
Encourage them to see patterns in the story, and likes and differences. When a child makes a comment that could lead to a comparison, follow it up with 'Yes — do you remember where else in the story he said that?' Quote from books the children know well. 'Where are your sneakers, Jake? Like Henny-penny, you "go barefoot, barefoot." Encourage them to do it, too, with songs and stories. 'Ha! You remind me of Father Bear. Do you know why?' 'I said "Who's been sitting on my chair?," that's why.'

Quote

Use songs, rhymes, and finger-plays

Songs, rhymes and finger plays and puppets are useful additions to group time, story time — whatever you call these whole group 'get-togethers'. Of course, these things can take place in incidental small groups elsewhere in the room; it is the event which is 'grist to the mill', not its correct time or place. Grab any opportunity to widen and deepen the children's love and understanding of reading, and you may be surprised at the ease and fluency with which they learn.

Footnote: Representation is involved in many areas of the kindergarten program. Refer to the sections, also, that deal with dancing, in *Creative Movement*; block building, in *Materials*; and role-playing, mentioned in several sections. Notice where representation occurs and how it incidentally helps to develop reading and writing abilities.



INVESTIGATION

Exploring
Perceiving
Articulating
Manipulating
Imitating
Adapting

INVESTIGATION

We have said, and make no apology for repeating, that children's learning in kindergarten is direct and concrete. For several years their best thinking will be tied to real objects which they can see and manipulate. If you provide rich and varied opportunities you set the stage for eager and purposeful scientific investigation later on — even through college and beyond.

How can you set the stage to provide these rich and varied opportunities? In the same way that you provide for all other aspects of the kindergarten program. You have already provided them in the different areas of your creative and child-responsive room. You will continue to provide by using chance opportunities that occur. Here are some specific suggestions.

Clay

There should be a bin of clay in your kindergarten. It is important to use real dug-from-the-earth clay. There may be clay beds in your area which you could visit with the children and dig your own. It will need washing and cleaning of pebbles and rubble. While you are digging, the children will find other soils, plants, and rocks to collect and talk about. A table in the classroom could be used to display all the found things and a book made about the whole experience. You may not get a lot of clay and still need a commercial supplier but children will understand more realistically that clay is earth, part of the stuff we walk about on, and they will recognize lumps of it when they dig the garden with Dad next spring. Encourage them to handle different kinds of soil, squeezing and molding it so that they recognize the qualities of the modelling stuff. There is opportunity for language expansion here as in any new experience — moist, absorbent, gritty, smooth; clay, slip, humus, leaf-mold . . .

Did you know that clay pushed through a coarse sieve makes good hair for a model? It's called 'extruded' clay.

Earthworms

A rainy period of weather produces a welter of worm life, but you need not wait for this. Take a group, large or small, to dig up some worms and investigate their world. Forearm yourself with some knowledge if you can, but if the foray is spontaneous and you don't know much about worms or any other small life you are investigating together, you can do the research after the event with the children, using books from the library or brought from home. But even without the naturalist's knowledge you can have a lively and enriching experience studying insect and animal life of many kinds.

Dig and expose some worms; watch them. Remember to let everyone share in the action; there may have to be several dug patches in order for everyone to be able to watch. Collect some worms, explaining that whilst they'll live for a few days in the classroom, you'll return them to their natural habitat before they starve or are otherwise harmed. Each child can contribute a worm if he wishes, but if someone wants to let his go free, watch how quickly it takes advantage to disappear into the earth again.

Keep some in large jars of the soil in which they were found, and cover them with thick paper, or keep in the dark. The worms will burrow and tunnel up against the glass and the children will be able to see them clearly when the paper is removed.

A shallow layer of soil on a tray will allow the surface action to be observed for a day before they are returned to the jar or garden.

Did you know that in the spring you can go out at night and hear the earthworms pulling leaves and food down into their holes?

A squid or an octopus

If you find something interesting, like a squid in the fish market for example,* bring it to kindergarten. Leave the squid in a sink or a bowl of water. It will hold the attention of a changing group of children for hours. They will handle and move and watch and discuss it, and you can stop by once in a while and add a comment or question.

Keep the magnifying glasses handy, and a sponge and towel for mop-ups and drying hands. If you find the slitheriness unpleasant, leave the handling to the children and don't voice your repugnance. Remember that they copy your behaviour and absorb your attitudes, so be on guard to avoid infecting them with your squeamishness. Have paper and colours nearby *as always* so they can represent the experience if they wish.

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* A coconut, an avocado or a toy from another country would be equally intriguing.

Aquarium

An aquarium in your room is a constant source of investigation and a reading corner is a good place to keep it. Children can share responsibility for its care and become involved in the study of the health and welfare of the fish, their feeding and breeding habits. You will be able to share the children's relaxed pleasure in simply watching and marvelling. Remember that pets and plants are good sources for investigation of all kinds.

Pets and plants

Did you know you can buy a fish in the market and make a fish-print, like a vegetable-print?

Spontaneous response to events

Some events will catch you unexpectedly, but capitalize on their opportunities. There may never be such an event again — a back hoe in the neighbouring lot, a helicopter in the field, a flock of migratory birds or a squirrel storing nuts in the playhouse outside. Being outdoors is healthy, justifiable behaviour, not 'slacking off.' It can extend the range of possibilities for investigation. It can offer chances for putting into operation activities like kites or bubbles or water sprinklers or butterfly watching — all celebrations of life to be shared. Some of our children desperately need some life to celebrate and we can help imbue all children to some extent or other with an exuberance and awe for things that happen, both natural and man-made.

Outdoors and . . .

Touching the earth, when so much is covered in concrete, is something you should hurry to do — and that means anything that exposes you and your children to the source of things.

Deanna sticks her head into the kindergarten room. 'I've got a deer hide I'm scraping. Want to see?'

'All of us?'

'Why not? Come on.'

Nineteen children and three adults troop up the hill to her house where the strong-smelling hide awaits them. Deanna spreads it on the floor and shows them how to clean away the last clinging bits of meat with metal spoons; how to rub firmly enough to get it off but gently lest they tear the skin. Children and adults work away, cautiously at first, then more confidently, finally becoming so absorbed in their task that they lose track of time.

. . . indoors

The plumber or telephone repair man comes, a mother arrives with her tiny newborn baby; as a whole or small group (according to their interest) take time to watch, ask questions, and recall similar experiences. Try to provide the accessories for 'playing out' those parts; hats, tools, baby equipment like bottles, diapers and powder, can be put in the dramatic play area if they are not already there. Pictures, film strips and invited visitors expand events and enrich dramatic play, but do not substitute for the real experience.

During a quiet period when teacher and children were consciously listening to silence and identifying *the sounds that began to emerge from it — the ticking of a clock, the gurgle of water in a pipe — a regular beat, distant but audible, was heard. The teacher agreed with a suggestion that it was probably a road drill over on the highway. 'But it's getting nearer,' someone said. It was indeed, and guesses began to fly. 'A machine,' 'a helicopter,' 'a man banging.' The teacher joined in. 'It's an Indian drum,' she suggested and was generally scorned. Suddenly, a child jumped up and opened the door. 'It's an Indian,' he announced, 'beating a drum!' Along the corridor of the elementary school, followed by the entire school population, teachers and students, came a tall, smiling man in traditional costume, dancing and chanting. Everyone clapped, chanted and danced after him along the hallways to the gym, where he demonstrated different rhythms to an enchanted audience.*

What an experience! What a memory!

Provide the 'props'

Because many investigatory experiences are spontaneous, capturing the elusive and rare event, a stock of props should be available. They are equally important for the planned excursion, and should be stored on a temporary or permanent basis in some accessible place. There should be enough digging trowels for each child, if possible, or at any rate, plenty for sharing. Containers should at least make up the number, for no one will want to stand around and watch the involvement of his peers, even if helping the specialist at work is discouraged! Pails, jars, boxes with airholes or netting tops, trays, and paper bags are all needed for collecting. Magnifying glasses, strong in frame and magnification, are invaluable for close scrutiny of tiny things, and for focussing in on parts of larger things. If it can be afforded, one of the stool-type magnifiers is good for carrying around the playground in search of something to observe. A camera, especially the instant-processing kind, is terrific for children to use. They can have the photographs to illustrate charts or records, individual or shared.

Sometimes it is appropriate to take writing materials outside. Little hard-backed pads with attached pencil stubs give a sense of importance to a police or fire station visit, and can be used for drawing and writing words noticed on site or just scribbling in copy of adult behaviour.

Draw on the knowledge or speculation of the whole group as well as giving of your own knowledge. 'My dad says . . .' or 'Once we saw . . .' can add to the information gathered about an event you are watching or undertaking.

Research and discussion

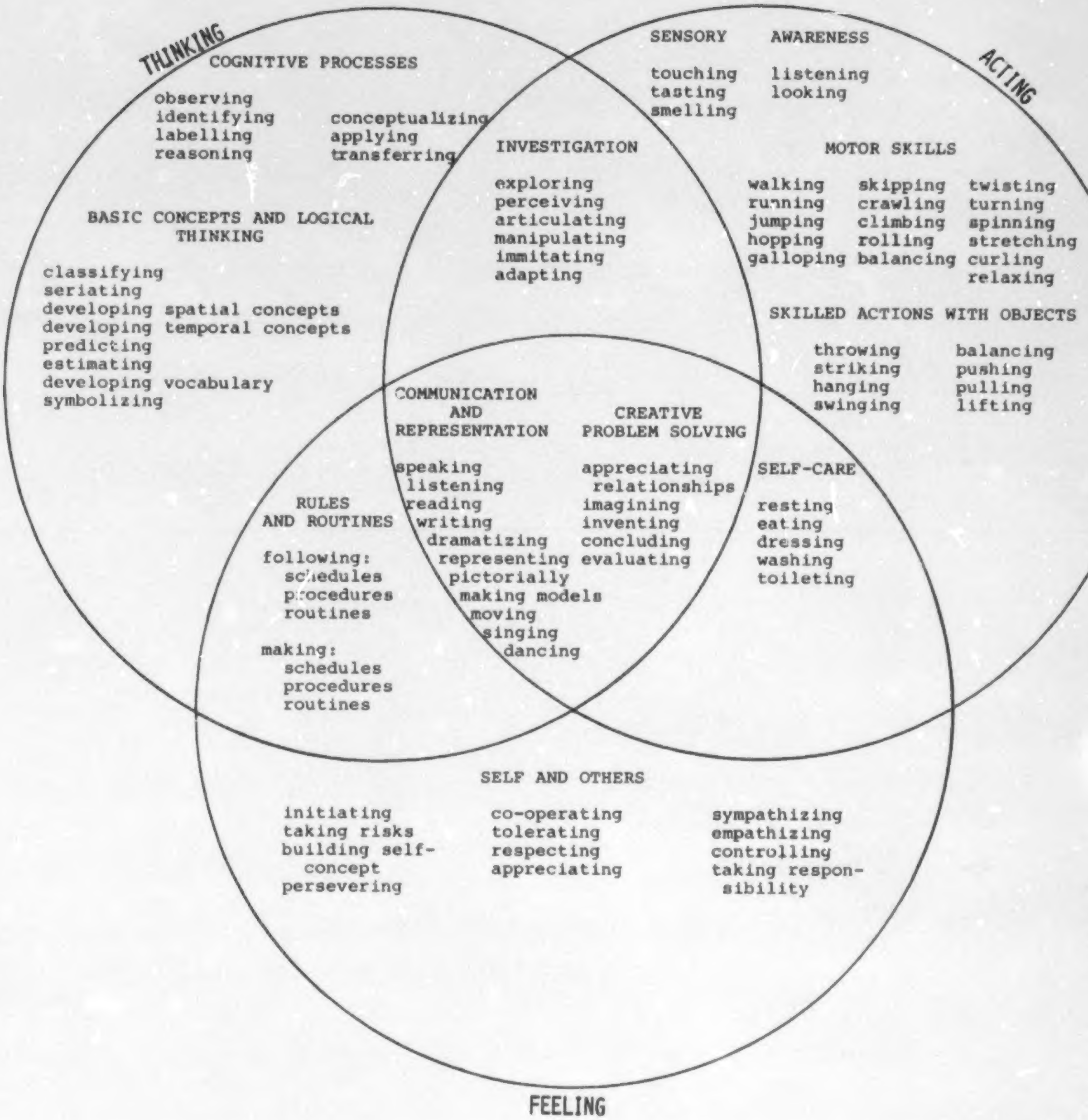
Children will realize that grown-ups can't know it all. They can look some things up, and some other things have to be discussed without necessarily reaching a conclusion. 'I believe that thus and thus . . .' is all you can tell a child about some things, 'but some people don't agree.' You and your children may discuss things like when is it O.K. to kill insects? or is it ever O.K. to kill? What responsibility do we have for the living things we uproot and bring in to the classroom? You may believe, as we do, that children and teachers should feel responsible for anything brought in, whether it's a grass snake that is let loose after a day's observation or a handful of buttercups picked and presented to mother or teacher. The plant we pot, or the beetle in the insect box may be one among millions, but how we treat them affects not only their lives, but the life and attitudes of the children involved.

Language

As with anything we do with the children, we should expand their vocabulary and use of language. Using expressive phrases and technical terms yourself captures their imagination and offers them new words to use. Speaking of an octopus's arms as 'tentacles' may seem obvious to you but may be a new and delicious term to the children. Encourage them to find descriptive words like slithery, transparent, buoyant and tough. This is the power of language which fives are just discovering. The gifted teacher uses language to enhance the children's involvement and not as a screen between the child and his own perceived reality.

So you can see that we have come full-circle in our description of development. Children investigating their world are active physically, mentally and emotionally.

Take another look at the diagram of development and you may understand even more clearly how it is all integrated in the active investigation of each and every child.


THINKING
COGNITIVE PROCESSES
observing
identifying
labelling
reasoning
conceptualizing
applying
transferring
BASIC CONCEPTS AND LOGICAL THINKING
classifying
seriating
developing spatial concepts
developing temporal concepts
predicting
estimating
developing vocabulary
symbolizing
ACTING
SENSORY
touching
tasting
smelling
AWARENESS
listening
looking
INVESTIGATION
exploring
perceiving
articulating
manipulating
immitating
adapting
MOTOR SKILLS
walking
running
jumping
hopping
galloping
skipping
crawling
climbing
rolling
balancing
twisting
turning
spinning
stretching
curling
relaxing
SKILLED ACTIONS WITH OBJECTS
throwing
striking
hanging
swinging
balancing
pushing
pulling
lifting
COMMUNICATION AND REPRESENTATION
speaking
listening
reading
writing
dramatizing
representing pictorially
making models
moving
singing
dancing
CREATIVE PROBLEM SOLVING
appreciating relationships
imagining
inventing
concluding
evaluating
SELF-CARE
resting
eating
dressing
washing
toileting
RULES AND ROUTINES
following:
schedules
procedures
routines
making:
schedules
procedures
routines
SELF AND OTHERS
initiating
taking risks
building self-concept
persevering
co-operating
tolerating
respecting
appreciating
sympathizing
empathizing
controlling
taking responsibility
FEELING

[redacted]

PART II

THE INTEGRATED PROGRAM: ORGANIZING SPACE, TIME AND MATERIALS

- *Organizing Space in the Classroom*
- *Freedom to Move in the Classroom*
- *Playground*
- *Gym*

Planning

Scheduling

Observation and Evaluation

Materials

- *Water*
- *Sand*
- *Clay*
- *Playdough*
- *Painting*
- *Finger Paint*
- *Collage*
- *Blocks*
- *Woodwork*

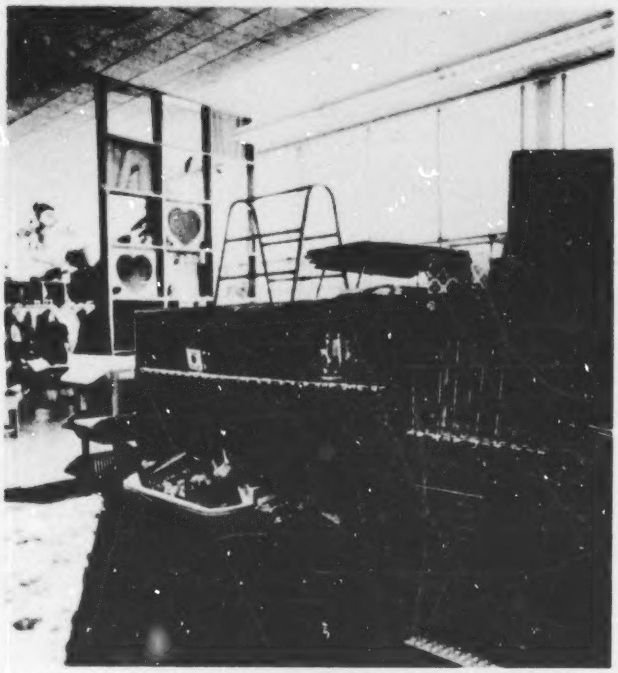
Trips

In the first part of this guide, we described how kindergarten children learn and develop and how you can enhance their intellectual, physical and social development in the context of their activity in a prepared, play-based environment.

In this part we describe in more detail how to create this special environment, how to organize space, make a schedule, observe, plan activities and trips, use materials, and how to evaluate your program.

Organizing Space in the Classroom

Because five-year-olds are active, their room should allow freedom of movement; because they learn through play, their room should provide a variety of play situations; and because they are becoming autonomous and enjoy making choices, the room arrangement should make it as easy as possible for them to help themselves to materials and to put things away. Finally, because they are becoming very sociable, there should be room and materials enough for them to work together as well as alone.



It is difficult to arrive at the ideal arrangement. In all probability, you and the children will make changes as the year progresses. Bearing that in mind, however, you will still need to have a clear and workable floor plan to begin with. When making your plan, don't forget to allow for the immovable features of your room: windows, exits, water and power sources. Consider the important requirements, limitations and special situations presented by the activities that will be going on: art, block building, dress-up and dramatic play, book browsing, puzzles and table games, tending pets and plants, group discussions, singing and stories, dancing and creative movement, etc. All rooms should have clear demarcation between areas and clear ways to get from one area to the other.

In the resource section under *Setting Up The Room*, you will find a few sample floor plans which may give you some ideas. In addition to the plans we have included a list of furniture, equipment and materials for kindergarten. This is not meant to be an exhaustive list but rather to serve as a starting point for planning. Finally, we have listed the titles of some useful books and articles which treat the organization of space.

Interest Centres

Here are some of the basic centres for a kindergarten room and their physical requirements. The dimensions of your room and the considerations mentioned above will determine which centres you will combine in one area.

• Blocks and Construction

Unit blocks require adequate shelving. Low shelves that can surround part of the area are useful. Carpeting with a short pile makes a suitably stable surface for building, reduces noise and is warmer for children.

Small blocks can be kept on a shelf near the unit blocks to be used with them on the floor or separately on a table.

Large, hollow blocks and planks can be kept in the gym or even outside if there is a lockable shed. In the classroom, where space permits, they can be stacked in an area close to the dress-ups to encourage large scale building and dramatic play.

• Art

This should be an uncarpeted area close to the sink to facilitate clean-up. Tables will be needed for clay, collage and finger painting. Easels are useful. You will need storage for the children and also storage for yourself of extra or special purpose supplies. Consider drying space: racks or stairs or a clothesline. Display space is also important: tackable surfaces as well as shelves and window ledges. But display space does not necessarily have to be in this working area.

• Books

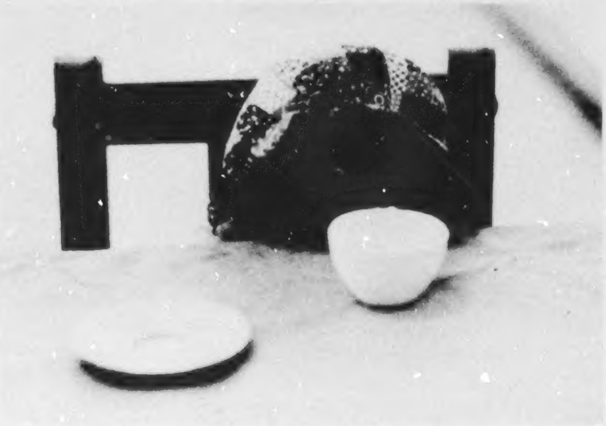
This area should be carpeted or supplied with soft throw rugs. Floor cushions, rocking chairs, a donated upholstered chair or chesterfield, foam mattresses, are all seating options. Book racks can double as dividers to make this a sheltered, cosy corner. If this area doubles as a meeting place, movable book racks can be pushed out to expand it for the group. An aquarium and other interesting objects which stimulate observation and research might belong here. Some teachers like to put a listening station for music or taped stories or filmstrips here, others keep the book area small with these other book-related activities close but separate.

- **Table Toys**

These would include puzzles, pegboards, Lego, geoboards, loc-blocks, board games, cards, etc. Good shelving or drawer storage is necessary for keeping supplies neat and available. 'Table toys' is perhaps a misnomer since a section of carpeted floor which is not a thoroughfare can serve well for activities of this kind.

- **Dramatic Play**

This would include an area for house play with kitchen props, telephones, dolls and doll beds, etc. You'll need storage for dress-ups; a wardrobe or large wall hooks work well. A full length mirror is a good addition. A loft in this area allows for play at two levels. Large hollow blocks and planks enable children to change the area around for new possibilities. Small tables and chairs and movable shelves or screens can be adapted to a variety of pretend themes: house, store, hospital, barber shop, sheriff's office, restaurant, etc. Dramatic play may be planned for in more than one area of the room; one of our room plans has a separate playhouse.



- **Woodwork**

The challenge is to provide both easy clean-up (sweeping up sawdust) and noise protection. We suggest you keep the woodwork bench on the uncarpeted floor area but put carpeting or blankets on the nearby walls or dividers. Portable saw benches have the advantage of being easy to move outside or into the hall, especially if placed near an exit. In any case, you'll need a sturdy workbench of some kind and storage for wood and tools. Room dividers can double as vertical storage.

- **Sand and Water**

This should be an uncarpeted area for ease of sweeping or mopping. You will need shelves or other storage for containers, utensils, scales, etc. Plastic aprons can be hung up on hooks or a clothesline. If you don't have a specially constructed sand and/or water table, you can set up a tub or wading pool on a low table or the floor.

- **Animals and Plants**

For indoor plants you'll need space near the windows; wide ledges are lovely but a shelf at window height works well too. Outdoors you'll need an area for gardening, preferably a patch of earth but at least a planting tub or some window boxes.

Animals require cages of some kind. Consider outdoor hutches for rabbits. They must be well protected from weather and predators, of course. Indoor cages, terrariums and aquariums generally need indirect light and protection from draughts and temperature changes. You'll need storage for bedding, food, etc. These living things need not be gathered in one place.

- **Cooking**

You'll need an electric outlet for a hot plate or electric frying pan. Washable counter tops and/or tables should be at child height. Tackable wall surface is useful for displaying recipes. Food preparation should take place in an uncarpeted area near the sink. You'll need storage for utensils, food and apparatus such as electric frying pans.

- **Special Displays and Activities**

This would be a place where children learn to look for — and eventually help plan for — novelty. The contents of the centre might change every few weeks. It might house collections like: sea shells in a box of sand, a tank of pond water and a magnifying glass, some magnets with a selection of magnetic and non-magnetic items to be sorted, investigated and added to, a broken clock with the back taken off, etc. Or it could be something quite different, for example, three or four embroidery hoops filled with loosely woven fabric and a hanging strip of cloth on which are stuck blunt needles threaded with coloured yarn. These items don't have to disappear when they are moved from this area; they can be integrated into the other on-going activity centres in the room. The idea is to provoke questioning, observation and exploration. This could be an area near the books or perhaps a table in a corner where just a few children might gravitate in a quiet moment.

Freedom to Move in the Classroom

Physical development

The young child's physical development is constant and continuous. Throughout every day his body is growing and changing as surely as the geranium on the window ledge, and as teachers we should be aware of our responsibility to shape, foster, and challenge this development as we do all other aspects of his growth.

Freedom of movement

The first and easiest possibility on which to capitalize, is giving children freedom of movement within the classroom and encouraging them to make profitable use of it. Confined to tables and chairs for too long a period (and for some, *Practice*

more than five minutes is too long), children become restless and fidgety. Since using developing functions constitutes practice of those functions, whether physical, social, or cognitive, moving around in a room full of materials and other people is practising for competent movement. Body awareness, knowledge of where the limbs are and how they can be put to use, is part of the repertoire of skills that children are building. Surefootedness comes from experience as well as maturity, as with all development, and experience is gained when a child carefully maneuvers round a block building without kicking it over, or carries a jar of paint without tripping because his gaze is on the paint and not the path he is following. As with other developing skills and behaviours, trial and error is involved and spilling and tripping will occur. So will learning. Next time — or maybe many times hence — the skill will have been perfected because of practice.

Pathways

Awareness of children's need to engage in movement in all its complexity can influence the way space is organized in the kindergarten room. Clear, straight pathways through a classroom are an invitation too tempting to resist by most youngsters. Unless running is a physical activity we intend to encourage indoors it is wise to arrange the learning areas so that a clear passage is available, but one that turns and varies its direction.

Levels

Sometimes there are steps or changes of level in the room that offer challenge and opportunity for ascent and descent without disrupting other areas of the class. Children will naturally jump, roll and climb in situations like this.

Benefit of movement

Stepping off a low object such as a step or box is the forerunner to jumping skills, and some with less mature development may be able to practise in this way. Control and skillful ability are the goals, and occasional collision and tumbles are part of the process. We should be as tolerant as possible, and supportive of these behaviours within safety limits because they indicate that children are accepting challenges in the environment and improving physical skills. Activities of this kind not only affect large muscle development but are beneficial to mental development. Cerebral activity is stimulated, physically by the vigorous use of heart and lungs and mentally by the solving of problems of space and locomotion.

Climbing

If the kindergarten has room for climbing apparatus, there will be opportunity for energetic activity at any time the children feel the need. Consider the climbing potential of furniture such as a loft: a bunk-bed-like structure used in kindergarten as an elevated quiet place for reading or listening to a tape recorder, resting, or climbing in and out.

Floor Patterns

Patterns in the floor covering, tiles, or shapes painted on floors provide motivation for balancing practice. Children like to follow a marked route, indoors or out. Not only are balancing skills encouraged but incidental practice of such concepts as seriation and counting will probably occur. Right foot and left foot following patterns in the tiling can suggest rythmic sequences that hopping feet transfer to speech — 'ONE, two, three; ONE, two, three' and so on.

Targets

Striking a target has more organic involvement with counting scores than dots on dice. Objects thrown into a container have a very concrete connection with the accumulation of a score. More in the basket means less in the throwing pile. Thus number games involving throwing, pitching, aiming light balls or bean bags serve more than one purpose as well.

Space for expressive movement

All these activities are incidental and integrated within the normal functioning of the classroom. Also normal to the day's procedures is expressive movement, dance and the dramatization of songs and stories. They may be introduced by the teacher as part of the planning for group activities or initiated by the children themselves, but there has to be an area which has enough space for these to happen. Furniture can be pushed back, perhaps, and rearranged to allow a clear area for children to act out stories or dance to a guitar or tape-recorder.

There may be a growing impression that this classroom has the proportions of a large auditorium, and it is true to say that young children's activities do need space. However, not all this equipment will be available in all rooms and some will be brought out for short periods only.

Support spontaneous movement

Much of the activity is likely to be occurring wherever young children are gathered and when teachers are aware of its value, they will support and foster rather than repress. Sometimes admonitions of 'Don't jump down the step; just walk' are born of our desire for unnecessary orderliness instead of recognition of a moment of physical exertion and enjoyment.

Encourage autonomy

Allowing the children to do things themselves not only encourages personal autonomy, increases self-confidence and relieves the teacher of some unnecessary chores, but can foster physical skills at the same time. Opening heavy doors or drawers, carrying piles of blocks, reaching for cupboards, stretching to retrieve things, pouring juice and counting out crayons are all activities that serve to extend children's abilities. Obviously children can't be allowed to risk injury to themselves or others, but a reasonable extent of trust in their abilities is rewarding to teacher and child.

Blocks

Block building has amongst its multiple developmental benefits the potential for large and small muscle refinements. Strenuous lifting of blocks and planks and other materials for making large buildings, or the delicate manipulation of small balanced pinnacles on block towers demands co-ordination of limb and eye and constitutes practice of physical skill and problem-solving ability. Spatial considerations are involved in whether one is under, behind, or taller than the structures made. Responsibility for getting out and putting away blocks and all other materials in the room involves stretching, bending, carrying, as well as calculations concerning weight and balance, matching (for example, block shapes) for orderly storage, and the confidence that grows with children's ability to have an effect on their environment.

The whole area of self and equipment care is an extension of these opportunities. Small muscle controls, developed through cutting, threading, pouring, writing, painting, etc. are all part of the daily program for young children. Doing things for themselves (washing, dressing, toileting) increases their independence and feelings of self-worth, and develops their manipulative abilities.

The Playground

Provide suitable clothing

Because of the nature of the play opportunities given to young children, parents should be urged to send them in suitably protective clothing and to supply dry clothes for changes. Outdoor time is a valuable contribution to the healthful development of the children and, except in the worst weather conditions, they will probably spend part of every session outside. Therefore they need clothing that will afford protection from cold, heat, wet and mud according to the season, and some clothing in duplicate. Keeping several pairs of mittens in a drawer provides extras for those whose gloves are wet or forgotten.

'Catching cold'

Parents may need to be reminded that colds are not caught by children being cold, but by viruses often spread in hot, dusty, unaired rooms, and that sensible exposure to the weather, including motivation for plenty of action, will strengthen children's resistance to ills. Provision of dry clothing and warm rooms with acceptable humidity are part of the practical precautions that teachers should take to combat bad weather conditions.

The well-designed and well-situated playground contains a wealth of possibility for physical, social and cognitive growth, whereas the bare, crowded asphalt yards of former years were breeding grounds of physical aggression and deplorable social development. Give children the chance to be actively involved and they will be, so it behooves us to provide the chances for healthy involvement. Children need places to run, climb, swing, throw and catch, take on roles, sit and watch, talk — in effect, opportunity to test their powers to the full. The five-year-old wants to run fastest and climb highest, and if he is not challenged by possibilities for positive involvement he will settle for the kind of behaviour that in later years becomes disruptive and anti-social. Children can really extend themselves profitably if the scope of outdoor space is fully exploited.

Challenge and variety

The school playground probably has some basic equipment and space for more. It is to be hoped that there are or will be climbing places suitable for five-year-olds, which means that they are safe *and* challenging; safe because the rungs, for example, are close enough and small enough in diameter for small hands and legs, and challenging because they encourage children to explore and master them. There should be no confusion between what is challenging and what is dangerous; the first offers motivation to extend physical abilities when the child is both physically and emotionally ready, and the second applies to equipment and space which offers a threat because of its construction or design and should not be used by anyone.

Climbing equipment

Whilst it is more difficult for the individual teacher to control playground design than the arrangement of a classroom, some understanding of the possibilities and needs for outdoor play is the first step towards action. In discussion with parents and colleagues, plans for improvement can evolve. Considerations of safety, cost and maintenance, etc., need specialized knowledge, and major alterations require major decisions on the part of those concerned.

Planning considerations

Movable equipment

However, teachers can use their knowledge of children's needs to provide materials and to interact in the play to improve the quality of playground use. Loose boards, ropes and other building materials over which children can have manipulative control are good for social and physical development. These tend to make an area look less tidy than some principals would wish, but we need to urge the educational value before they are consigned to the dump. When children can affect their environment by making basic changes with such materials they are involved in many of the developmental tasks we see as valuable for them; for example, problem-solving, social interaction, and creative innovation. Control is something of which a five-year-old has limited experience. Lugging boards to make a hide-out, or positioning a ladder so that it extends the possibilities of existing equipment, and other structural changes of this scale give children a real sense of having impact on the adult world, a sense so valuable to their developing self-concept. Large blocks — the hollow kind commercially produced

Storage facilities

or home-made from found lumber — contribute to outdoor play materials. Perhaps someone on staff, or an industrial arts class or a parent, will build a locker to keep some of the loose and precious materials from theft or vandalism and under better control.

Motor tires

Motor tires are not too difficult to obtain and can be used loose or roped and bolted into various pieces of equipment (often shown in creative playground designs). They can be pushed up slopes, rolled down, stacked in piles, climbed through and over and into. The physical exertion of the 'pushers' and 'rollers' as they discuss and execute movement of the tires is testimony to their worth.

Climbing tree

On a more ambitious scale, a whole tree hauled into the playground, laid on its side or set upright in concrete, with the twigs and longer branches removed, makes an interesting climber. Children balance along its length, if it is lying down, jump off at various points, climb up and begin again. Or they sit in the nooks created by the branches and relax.

Children united in operations of this kind are using their prowess for strenuous physical activity whilst talking about it (developing functional speech patterns), cooperating, planning, and using their resourcefulness and leadership qualities. Suggestions and help from the teacher may be included if sought or willingly accepted by the children.

Sand and water

In any play area for young children there should surely be a sandpit and a source of water. Remember what was said about protective clothing, for although children love to run through garden sprinklers and splash in buckets of water on a hot summer day, their intense involvement with the action of heavy rain or the water from a hose on their sand excavations needs strong rubber boots and splash pants. With suitable implements — buckets, shovels, rakes etc. — hours of absorbed building, tunneling, and road constructing will transpire, with all the attendant language development, problem solving and other social interchanges. Scientific theories are tested when children pour water in moats and watch its absorption or push sticks of different sizes into the tops of sand castles and try to patch the cracking that results. Children love to construct road patterns in sand-pits, linking and crossing roads for trucks to traverse. It can clarify for them, in a very real way, the mysteries of road travel and help them understand the spatial connections between one place and another.

See Materials: Sand and Water

Capitalizing on the natural environment

The natural environment should not be overlooked, or destroyed, in an effort to provide space for playing. Trees, bushes and rocks all provide climbing and hiding and dodging-around situations in the natural context that we are anxious to emphasize in early education. Small logs can be used by the children to build among bushes in the same way that they use planks. There may be a place where children can plant flowers and vegetables, and where hutches for small pets stand in sheltered locations.

Areas of unspoiled wilderness invite walking and exploration and voyages of discovery, full of social, physical, sensory and cognitive experiences. Include the natural environment in your planning and be assured of the developmental benefits. Above all, plan some constructive outdoor time for your children almost every day.

Take advantage of the changes of weather and season, and rather than allowing a windy day to deter outside play, utilize it to fly kites, experience open windy areas and sheltered places, observe the reaction of trees and playground swings, and generally become involved in the physical world at yet another level. Getting wet, provided there are dry clothes and warm indoor conditions, does not hurt healthy children. Digging in the snow is very different from digging in sand, and jumping from a height into a snow pile in December is as necessary as jumping in a leaf pile was in November. Active involvement in outdoor play is vitally necessary if young children are to achieve optimum development.

The Gym

There is something awesome about the huge space of the average school gymnasium, but children

Provide space to run —

— and to rest

respond to its size with enthusiasm and spontaneous activity. In an empty gymnasium they can run freely until exhausted. This kind of hard, fast movement which allows children to exert themselves to the limit, leaving them breathless and panting, has beneficial effects in several areas. The children feel good, having a sense of control over environment, their bodies are oxygenated and their abilities extended. They need a place out of the runners' pathway to flop down and recover, possibly indulging in some action-vocabulary talk: 'I ran the fastest,' 'I ran 100 miles,' 'I was running the whole way,' etc.

But this is only a beginning.

As with their classroom we want a rich varied environment which will stimulate the children to indulge in the kind of activity we believe is advantageous to them. It should be as facilitators that we are conscious of specific movement developments and not as teachers focussing on discrete skills. It is true that complex actions are composed of linked discrete skills, but so is the process of reading and we approach that in a holistic fashion, only breaking it down into components at a later stage. We have to be aware that, for example, as one child needs exposure to situations that encourage him to connect beginning consonants, another needs equipment that encourages him to curl, roll and bend, and so we provide them in order that in the natural course of his play he will encounter and use them. Other children will benefit, too, from those also needing to practise those skills to those who have mastered them and are enjoying the repetition and sense of achievement. As with cognitive skills, not all children are at the same level at the same time.

Provide variety

Respect individual choice & tempo

The gym equipment can be arranged so that there are a series of activities from which children can choose: enough equipment that they will not be waiting to take turns and enough time that they can explore its potential. There is no more need to determine who shall play where, or to direct activities so that each group has experience of each area, than there is in the classroom. The motivation of the apparatus will be enough to ensure that every child is actively involved in self-chosen activity. Suggested areas for individual children may be made for good reason — to avoid lining up, or to help a child bewildered by the choices, for example — but movement of whole groups from one area to another is undesirable. Children will change as they are motivated to do so, and if they don't it will usually be because the activity is satisfying and fulfilling.

Climbing Equipment

Children set their own goals

It should be remembered that challenges have to be more carefully chosen because of the circumscribed nature of the gym set-up. Difficult activities are harder for the children to ignore, but provided no situation is actually dangerous and that other, less difficult, equipment is provided for children who need it, the challenge will only be taken up by those who feel able. Adults are sometimes unwilling to see children push themselves to the limits, and in concern for safety and proper care of those for whom they are responsible, they restrict activity when they should trust the innate ability of children who test their physical powers, discover their own limits, and respect them.

This is not to negate our responsibility for the safety of children; on the contrary, it is a most serious and critical concern, but in allowing children to develop their own awareness of the extent to which they can safely extend themselves we help them to assume responsibility for their continued safety when we are not around. When basic safety conditions of space and equipment are met, children will test and risk within limits and should not be urged by the teacher to attempt more difficult actions. It is their own ability that they test, and not our conception of how much or little they should achieve. An adult's watchful eye, and encouragement are usually all that is needed.

Moving equipment into place for the gym period is physically demanding and helps pre-operational children to understand something about the parts of the whole, as they push pieces of equipment into juxtaposition with other pieces to form an obstacle course. This is growth through functioning; part of the experience of meeting problems for which they must seek solutions, and whenever it is feasible they should be allowed to help.

Safety considerations

Learning to run without colliding, chase without tripping, move without impeding another child's activity are other problems they can be expected to learn to resolve, but we do not want them to have to experience problems of disaster, so basic and rigorous concern with large equipment in terms of safety of construction and setting up, is paramount. Body control is developed by the individual but equipment control is fairly and squarely in the hands of those in charge.

Activity Centres in the Gym

Just as the classroom is child-oriented in terms of availability of materials, the gym should offer the range of small equipment that the teacher wants out that day, in places where the children can both choose and put back when they have finished. The apparatus should be spaced sufficiently that children will not be forced into grabbing and pushing, and that they can be held responsible for replacing them as they would in the classroom. Some delineation of the area for using balls, hoops or beanbags can be made, either by such means as drawing attention to floor markings or by supplying and placing equipment which suggests that balls be thrown into baskets and beanbags at targets.

Skipping ropes can be used to mark areas for jumping across, or circles to create small individual spaces or as a home base in games, and so on.

Sharing with the early grades

The way the gym is prepared for kindergarten is equally suitable for the early grades and could be used that way, necessitating a lot less physical alteration. A really complex and stimulating array of equipment could be combined for the use of kindergarten through grade 3 and left in position for several days. If a specialist physical education teacher is available he or she could be consulted about such an arrangement and would doubtless be of help in the planning and construction.

Organizing gym session

Whether the whole period is divided in any way or left open for exploration of the activity centres 'round the gym will vary from day to day according to the teacher's plan or the length of time the gym is available. The session might start with a period of more teacher-directed activity; a game that puts children through a range of movement, or challenges them to solve a problem. You might initiate a quick series of movements — bending, twisting, stretching and rolling — for the children to imitate and occasionally to introduce a movement of their own. Alternatively the children might be asked to find solutions as individuals or as a group to a problem of locomotion: 'How many ways can you find to go right across the gym floor?' Whilst the philosophy of self-chosen activity within a teacher-structured environment is as valid here as in the classroom, occasional stimulating interactions by the teacher help the children explore and discover the full range of their bodily movement.

Finish with a game

Clean-up

Finishing a session of free choices in activity centres with a game helps pull the group back into a cohesive whole. It ensures that all the small equipment is put away. It is likely that another class follows on your heels and you need to be organized. Tell each group that it is 'clean-up time' and to put away their equipment and come over to the place where you are organizing the game. This allows the 'slow pokes' to finish up and get their equipment away whilst others start the game. If it is going to be lively and fun it will motivate them to hurry.

You will find a list of suitable games in the Resource Section. Maybe you will remember or invent some of your own. Many books on kindergarten and elementary physical education will provide more. Be sure that the games

More about games

a) are within the cognitive and physical abilities of the group;
b) allow all children to participate and not just one or a few, whilst the rest wait too long for a turn;
c) have opportunities for all to feel they have achieved, or 'won' (these children are ego-centric;)
d) are fun!

Dance, drama: organization

Opportunities for dance and dramatization of stories may occur in the classroom or outdoors on fine days, but also in the gym. It may be expedient to section off an area large enough for each child to feel able to move freely but small enough to give the group a sense of unity and cohesion. If music is used, the full volume of a sound system necessary to fill the room may be too harsh; the lower volume sufficient for a small area would probably be better suited to responsive movement. When the whole gym is used, the children are apt to be too far from the teacher and the music to retain the sense of being part of a group and are likely to end up running and climbing. A teacher is wise to structure the environment to support the behaviour she wants. If no barriers are created the children will respond to the whole area, but if a part is sectioned off for dancing together, the children will be encouraged to work as a group. This particular kind of preparation is arrived at through experience and individual teachers will find their own ways to expedite the situation they want. Like children, adults will learn through trial and error to find the solution which best serves their needs.

PLANNING

Planning can be both personal and responsive. It involves a repeating three-step sequence: preparing, observing and interacting with the children, and using your findings to the children's advantage. Preparing includes making ready the physical space and materials for the children's use as well as planning what will happen and gathering ideas and resources.

Observing the children involves keeping your eyes and ears open, jotting down notes when you can, sometimes recording conversation on a tape recorder or a scene on a camera. You interact by being available, circulating among the children as they play and explore, stopping to talk, listen, draw out, comfort, encourage or intervene.

Following up on your findings entails reflecting upon and using your observations. You will use what you have noticed and experienced to make the physical environment and the curriculum more closely attuned to these particular children's needs, interests and abilities in order to carry them further along in the investigations and explorations they have begun.

Organization of the Classroom contains a short summary of the different interest areas and *Scheduling* lists the activities that go on. Throughout this guide you will find suggestions on how to pursue particular activities further. Are you beginning to wonder where to start? Begin by setting up an inviting environment. Have enough different centres to provide variety: blocks to build with, easels for painting, books, pets, plants, table games, a dramatic play centre. Some activities will demand much more direct supervision than others. Think about that and don't plan finger-painting and cooking for the same day.

Once you have established a good learning environment you can extend and elaborate it, sometimes to add new and interesting possibilities, sometimes to follow up on the children's interests. The suggestions in *Observation and Evaluation* should give you a good idea of how to keep abreast of what children are doing. Use your observations to inform your planning.

Below are some examples from a teacher's notes, showing how her observations of the children influence her planning.

- *Jeremy came in slowly and hesitantly this a.m., dump truck clutched in his hand. He circulated with me for a while before settling down to make a road in the sand table. Played there with Tom for 10 minutes, longer than I've seen J. interact with another child or T. settle in one place. These two could be very good for each other: T's friendliness and J's concentration. Will help them find each other tomorrow if they don't on their own. Block corner — garage for truck? Perhaps read or show them* The Big Book of Real Trucks.
- *Kate totally engrossed in painting. 'Guess what, teacher, I know how to make purple!' Showed me her purple dress. First time she's had so much to say to me or the other children.*
- *Read* Harold and the Purple Crayon *to Kate and Emily. Kate took it home to show her mother.*
- *Kate: 'Mommy* and *Julie* and *Grandpa read me my book!' 'Read' it to Emily, some pages* verbatim.
- *Made a tape of* Harold and the Purple Crayon. *Benny and John wanted to hear too. Benny: 'I wish you'd make a tape for the Angus book too.'* (Angus and the Ducks, *his favourite.)*
- *Had forgotten to make Benny's tape as I'd promised. Decided to record it then and there — de-mystify the process. Benny barked to signal the end of each page. He and John played it three times, both of them delighted.*
- *Adrian always seems to be on the fringes of the reading experiences the other children enjoy. He watches others browse through books but doesn't handle them himself, loses interest halfway through the stories I read to the group. Likes to sit close to me when we sing — must see that he gets some cosy individual reading times with me — eighth grade students? Loves 'There Was A Little Turtle' song. Is there a book of it? I could make one if not.*
- *Joan and Ellen in housekeeping centre, dressed to the teeth: heels, dresses, necklaces, purses. Shopping. Filled several purses with 'purchases' from around the room: puzzle pieces, Lego, pencils, books, doll clothes. Suggested they might like to make a store of their own tomorrow. Very enthusiastic response. Moved in large blocks and boards so they can construct something. See where this leads.*
- *J. and E. couldn't decide what kind of store they wanted to make. Asked where they go shopping with their parents. Ellen described going to buy a new dress, a special room to change and long mirror. Used blocks to make a changing room. Full length mirror, dress-up clothes served their purpose.*
- *More store play: Bill, Jamie, Susan. Joan and Ellen customers today. They asked for play money. Suggested they make some. A flurry of money making. 'I'm writing ten dollars.' 'I'm writing* eighteen.' *Jamie improvised a cash register from two hollow blocks.*
- *Mr. B. volunteered to make us an outdoor rabbit hutch if we provide the materials. Think we'll make a group trip of purchasing supplies: shopping list, money, checking out ads, price tags, etc.*

As you can see from the examples, this kind of planning entails a great deal of observing and interacting on the teacher's part. There will be time for that during the activity period when the children are engaged in their own pursuits. Planning in these examples is quite individual but it is not a matter of making an individual plan for each child each day. Building on one child's experience usually helps other children as well; notice how Bill, Jamie and Susan became involved with Joan's and Ellen's store and how Kate's recorded story whetted Benny's appetite. Strong interests and concentration are catching.

Planning based on observation forces the teacher to consider individual differences. Group stories and the opportunity to browse through books won't have the same significance for Adrian as for Benny who has been read to at home and already has some favourite books. Adrian's situation must be considered separately, in terms of what is meaningful to him, in this case his pleasure in singing.

When building on the children's ideas the teacher takes care to complement, not replace their contributions. Thus she does not bring in a realistic looking toy cash register to replace Jamie's invention, but shows her respect for his ingenuity by leaving the blocks to serve his purpose.

There is plenty of room for the teacher's ideas and suggestions. The things she introduces: taped stories, a trip to buy supplies, are not particularly original. What makes her plans work for these children is that they evolve from their own ideas and interests.

Planning for Holidays

Holidays have traditionally been the focus for a great deal of activity and discussion in elementary schools. Decorations go up on walls and windows weeks in advance and the teacher whose room is not thus bedecked may be made to feel remiss — 'Haven't you started Halloween yet?' But for kindergarten children, last year's Halloween is a fifth of a lifetime away; it is only by living through this year's Halloween that it becomes close and familiar. Wearing their costumes to school and carving pumpkins will be more meaningful to them on Halloween itself or the day after than three weeks before.

We think you should plan for holidays in the same way you plan the rest of your program. This includes collecting appropriate songs, rhymes, stories and activities of a festive, concrete type to enrich your repertoire. After that, take your cue from the children. When they begin to mention plans and preparations going on at home, when their play reflects a holiday theme and when your casual comments or questions spark a discussion, then start introducing some of the things you've had in mind.

Keep activities and discussions close to the children's experience. Learning about other people's holidays and customs is not meaningful to fives unless there is something in their own experience which brings it close to them, as when their teacher brings in a menorah and dreidls and shows how his children celebrate Hanukah or when Mika's mother comes in to prepare red beans and white rice for New Year's and teaches them to say a New Year's greeting in Japanese.

These are flesh and blood experiences; the children are captivated by the exotic within the context of the familiar: their teacher, their friend. These are also experiences they can share in: preparing food, playing a game, dancing a special dance.

SCHEDULING

Introduction

In this section we show how you can organize the kindergarten day. We have tried to outline a framework which will allow time for the experiences that will help develop the skills, attitudes and abilities detailed in the first half of this curriculum.

The section includes sample schedules for full day and half day programs, a list of possible activities for each of the periods mentioned in the schedule and, finally, a discussion of possible adaptations and important provisions to consider in scheduling.

Sample Schedule

Full Day (5½ hours, including lunch)

90 minutes — Work/Play time
30 minutes — Clean-up, snack preparation, snack
30 minutes — Gym
30 minutes — Group time, story, songs
60 minutes — Lunch (including outside time)
45 minutes — Limited activities
45 minutes — Outside

Sample Schedule

Full Day (4½ hrs.) Fine Weather

60 minutes — Outside
play equipment/sand and water
animals/gardening
woodworking
30 minutes — Books/Snack
wash hands
children look at books individually
snack
30 minutes — Group time
story/songs
90 minutes — Work/Play
30 minutes — Lunch
60 minutes — Trip to pond/meadow/woods
30 minutes — Discussion and sorting out of
collections from trip

Sample Schedule

Full Day (4½ hrs.)

30 minutes — Books and Table Games
30 minutes — Group time: Greeting, Singing
90 minutes — Work/Play
(Snack available for a few children at a time at one table)
30 minutes — Story
30 minutes — Lunch
60 minutes — Gym and/or Outside

Sample Schedule

Half Day (2½ hours)

60 minutes — Work/Play time
10 minutes — Clean-up
30 minutes — Group time
20 minutes — Snack
30 minutes — Outdoors or Gym

Sample Schedule

Half Day (2½ hours)

60 minutes — Work/Play
30 minutes — Clean-up and Snack
30 minutes — Outdoors or Gym
30 minutes — Story and Discussion

Sample Schedule

Half Day (2½ hours)

60 minutes — Outside
Equipment/Sand/Water (Bubbles?)
Woodwork
20 minutes — Wash hands/Snack
70 minutes — Work/Play
clean-up
30 minutes — Group time
Story/Discussion

The Action

What happens during the different periods of the day? The lists below illustrate possibilities; the suggestions are not intended to occur all on one day.

Work/Play Time

Centres:

- *Blocks and construction*
- *Art: Paint, Clay, Collage, etc.*
- *Woodwork*
- *Books, Listening Centre*

- *Drawing/Writing*
- *Table Games and Manipulatives*
- *Dramatic Play*
- *Sand/Water*
- *Living Things: Science Exploration*

Activities:

- *Observing, tending pets and plants*
- *Browsing through books, listening to stories on tape, dictating stories*
- *Experimenting with percussion instruments*
- *Drawing, writing notes, labels, invitations, etc.*
- *Interviewing and collecting data (e.g. preference for snack, eye colour, etc.) for later discussion and graphing*
- *Using paint, clay, etc.*
- *Special art projects like finger paint, stitchery*
- *Domestic play and variations: store, wedding*
- *Puppet making and puppet shows*
- *Weighing, road making, etc.: sand*
- *Pouring, comparing, syphoning, etc.: water*
- *Cooking*
- *Seasonal and/or Holiday activities: outdoor gardening, flying kites, carving pumpkins, stringing cranberries, etc.*

Whether called 'work/play time' 'free play' 'work period' or 'activity time' the crucial ingredient is choice. You will set up the centres, choosing and selecting and preparing with particular children in mind; you initiate activities like cooking with a few children; you may help some children to become involved and you often interact — but remember: children *select* what they want to do during this time.

Clean-up/snack preparation:

Children put away things they've been using, teacher helps, some children help others, some children stop early or are freed from clean-up to help prepare and set up for snack. Having children move to the book corner to read and look at books individually as some finish cleaning up makes for a smooth transition between clean-up and a group session.

Group time:

- Story and/or poetry read, told, sometimes dramatized
- Singing, finger plays, singing games
- Discussions, plans, observations
- Graphing, mapping, guessing games
- Creative movement, etc.

This is usually a more teacher-directed time than work/play time but it is still important to seek and respond to input from the children. In a discussion, listen as much as you talk, when dramatizing a story, work with the children's ideas.

When gathering children together for a song or discussion, the inexperienced teacher often loses the first children while herding up the stragglers. It works better to use the first enthusiastic children as a magnet, beginning a song or some finger plays or informal story telling with them as the rest finish and gradually join in. Don't insist that the reluctant child join in at once. Some children need to watch from the sidelines for a while. You can, however, establish some ground rules for group time, for example, that non-participants engage only in quiet activities that don't disturb the group.

Gym:

- Use of climbing, swinging, hanging, balancing apparatus.
- Singing and dancing games.
- Creative movement.
- Obstacle courses, involving leaping, balancing, etc.
- Construction with large blocks, planks, boxes.
- Use of balls, hoops, beanbags, racquets for throwing, catching, kicking etc.
- See *Physical Development* Section and *The Gym*

Limited Activities:

This would mean any selection from the regular activities but limited for purposes of emphasizing particular activities or for facilitating clean-up. For example: books, table games, plasticine modelling, or writing, drawing, sand play. You might keep certain things for this time only.

A limited activity time is in addition to, not in place of, a regular activity time. On a particular day, this time could be spent in activities related to a story telling session: puppets, acting out, etc.

Outside:

- See physical development section, and *The Playground*.
- Sand and water play on a large scale.
- Construction with large blocks, tires, planks, crates, boxes, other movables.
- Vehicles: small bikes, trikes, scooters, wagons, sleds if you have play space, storage space and sufficient quantity to make them viable.
- Climbing, etc. on apparatus.
- Running, jumping.
- Gardening, walking, observing, tending outdoor pets.

Considerations in Scheduling

Incorporate the unexpected

A schedule is a framework for you and the children. It is one way to ensure that you provide the significant opportunities which children need for optimal development. But there is no reason that a good schedule cannot be varied, as we said earlier in *Rules and Routines*. When the children flock to the window to see the bulldozer arriving across the street, make that the focus of your day: watch the operation, get out toy vehicles to use in the sand pile, read a story about a bulldozer and use its pushing, flattening, piling, smoothing actions as a theme for creative movement.

We suggest that you start with one of the schedules here and adapt it to your particular situation.

Starting the day

There will be certain givens of your site, such as when and how the children arrive at the start of the session, for example. If they arrive all at once, on one bus, you may want to begin all together with a welcoming group session. But in most situations, whether children are brought by their parents or older siblings or come on different buses, it seems to work best to greet them individually as they come in, allowing them to go directly to self-chosen activities and delaying group time until they have interacted informally in the context of their self-chosen play and exploration. Some teachers prefer to have children begin with individual but more circumscribed activity: browsing through books or seeing to classroom chores like watering plants and feeding pets when they first come in. Then they have a short group meeting and go on to activity time.

Other people's schedules

You will need to check the times when the gym and outdoor playground are free; that will affect your scheduling. If you can arrange to have children from an older class read to your five-year-olds, you may need to shift your group or story time to accommodate their schedule. Trips and special visitors will also necessitate special scheduling. These are some of the variables you will need to consider.

Time for self-chosen activity

The order of events is something you may want to adjust, but you should try to preserve the kind of proportion shown here between more and less strenuous activity, self-chosen and teacher-directed activity, etc. The work/play time is the heart of the kindergarten program; you should not encroach upon this time without extremely good reason. Sometimes this is unavoidable, as when there is a trip planned which will take most of the morning. The least acceptable use of activity time is for something which severely limits children's choice and mobility, such as a school picture taking session or a performance by another grade. In such cases, if you cannot control the timing of the event, it is advisable to shorten another period like group time so that the children have close to their usual complement of self-chosen activity time.

Vigorous movement

Similarly, it is most important that children have some time each day devoted to vigorous, whole body activity. Moving freely around the room certainly helps but is not sufficient; children need to run, climb, throw, kick, move heavy objects, dance, in order to stretch and strengthen muscles, and develop grace, awareness and control. Going outdoors for exercise in the fresh air is as important, if not more, in winter as in summer. For this reason we have tried to schedule outdoor play for times like the end of the session when the children would be going out anyway, so as to minimize extra dressing and undressing. For indoor exercise on days when your gym time is limited you can clear a section of the room for dancing and singing games or plan a particularly active dramatization.

Group times

Within the group times and work/play times there are so many possibilities that you will need to take stock periodically to see that you are not slighting certain aspects of the curriculum. For example, do you always spend group time reading stories, or is there also sometimes opportunity for telling and dramatizing stories, singing, graphing activity, taking a traffic survey or playing guessing games? Do children get a chance to browse through books on their own? Is there a balance between variety and predictability, between the children's input and your own?

If you keep these considerations in mind you will be able to change and adapt the schedules given here without compromising on the quality of the program.

OBSERVATION AND EVALUATION

Evaluation is integral and ongoing. You evaluate your teaching, the setting and the evolution of the group to check periodically that you are indeed meeting your own objectives and the objectives of the program. Another, related, purpose of evaluation is to get a closer look at individual children for your use in future teaching and to share with parents.

Use the developmental diagram

The organization of the Development section of this guide can serve as a framework for evaluation. For example: how does your program develop motor skills, sensory awareness and the expressive-communicative use of movement? How do you facilitate growth in cognitive processes and abilities, language development and logical thinking? What opportunities do you provide and do children use for representation and problem-solving? What progress have the children made in becoming more responsible and independent? What changes do you see in their attitudes about themselves and one another? From these you can proceed to more specific questions: What opportunities are there for observing, classifying, developing vocabulary?

The basis for answering these questions will be your actual experience with the children. Because so much happens each day it will be necessary to devise a system for keeping track of it all. If you can capture how individual children are using materials, carrying out routines, conversing with you and each other, and taking part in group events, you will evolve a composite picture of how the program works for the group as a whole.

Observing and Recording

Observation is crucial

Taking time to observe is as important as it is difficult. Even observing for just a few minutes each day can make a remarkable difference to the appropriateness of your planning and to your understanding of individual children. Especially during the work/play period, you can take time for observing and still leave time to interact with individuals or small groups. Avoid eye contact with the particular child you are observing. Observing an area may be more tactful than following individuals around since fives are becoming self-conscious.

If you observe regularly — but not so lengthily as to frustrate communication — the children will get used to it. When they ask you what you're doing, you can answer frankly, 'I like to look around each day and see all the different things that people are doing and finding out.' Note that this response is appropriately general; you naturally wouldn't say, 'I'm tracking Billy to find out why he's so upset lately,' even though that might be precisely your intention.

Strategies for balanced observation

It is important to devise a recording system that will help focus your attention on each child periodically, not just the very troubled or extroverted or exceptional ones. Obviously, if you teach as many as forty children, this means devising something workable, not perfect. It is helpful to keep a pencil behind your ear and index cards in your pocket so you can jot things down as they occur, quick notes to be amplified later on. It helps to limit the scope of your observing and record-keeping in some way. You might, for example, concentrate on two different children each day, or on interactions in a particular part of the room. If you rotate your attention to each of the children and to all areas in turn, you get a balanced record without trying to see and remember everything at once.

Techniques

Of course, we do not mean to imply that you should focus on record-keeping to the exclusion of interaction. Quite the contrary, thoughtful note taking can make you more sensitive and effective in your interactions with children. It may work better for you to save any writing until after the children go home. Some teachers use cards, some like notebooks, some keep a file folder for each child. Some colour-code their notes to refer to areas of the room or areas of development. Use the system that works for you.

Tape recording

Photographs

Explore other ways to record information. Tape recording discussions or conversation in different centres can be very useful. Snapshots or sketches can preserve significant but ephemeral scenes: a complex network of roads in the sandbox, block buildings, a particularly successful set-up in the dramatic play area. There is no reason that these pictures cannot also be used with children for other purposes or for communicating with parents. For you, they help capture a significant moment, a good teaching idea, a typical or unusual event for a particular child.

Sign-up sheets

Some recording can be done by or with the children. Sign-up sheets for centres or special activities become a record of who was where, which can be useful in evaluating an activity or a particular child's consistent favourites or which children tend to stick together. The sign-up sheet itself gives you a dated, progressive record of children's writing, from squiggle through many permutations to recognizable name.

Informal interviews

In addition, or alternatively, you may take down this information when conversing informally with the children during group time or snack: 'Where did you work this morning, Dale?' or 'Who was working in the block corner?' In this case your own writing provides a stimulating model to the children.

Copies of the children's dictated stories and labels, and samples of their drawing, writing, painting and other creative work collected at regular intervals all form a significant part of individual records. Similarly, group stories, pictures and graphs contribute to the record of the class as a whole. Remember to date these samples.

Data which is useful for evaluation purposes can also be the basis of interesting discussions and graphing exercises; for example, children's favourite books or activities or their current ideas of something they are particularly good at.

All this recording and collecting will help you evolve a rounded picture of each child, his preferences, interests, learning style, his special strengths and perhaps some questions or areas of concern. It will help you plan responsively and report accurately and sensitively to parents.

Typical Progress in the Kindergarten Year

When evaluating children's progress, it is helpful to have in mind the overall trend of development in the kindergarten year. The following should give a general picture.

• Language Development

This is still a period of rapid language growth. Children are learning new words and using longer, more complex sentences. Most children can express themselves clearly enough to be understood easily by adults and other children. Most can also use language creatively to persuade, to praise or insult, to influence, to tell stories and anecdotes, to give messages and to play with rhymes and nonsense words. Of course, your expectations must be tailored to individuals. Johnny, who only began to talk at age four, may not be producing long phrases at five. If he talks to friends and to you and is usually understandable, you can consider that he's making good progress in this area.

• Complexity of Play

Play becomes more complex and ambitious during this year. Block structures are larger, more carefully constructed, more deftly balanced. Children are more apt to collaborate on construction and to integrate different structures into one play theme. Paintings become either more clearly representative or intentionally abstract.

Many children devote themselves to a particular centre or activity. Mary, who has concentrated on dramatic play, will show increasing sophistication and detail in that sphere, engaging in long dialogues and complex scenarios, integrating a number of children in the play, negotiating differences with tact. She develops a large vocabulary, learns social skills and practises writing when taking phone messages. But in woodworking she is still at an elementary stage; hammering nails is enough of a challenge for her.

- **Choosing and Persevering**

Specialization of the kind described above marks another kind of development, the ability to choose a satisfying activity and pursue it with concentration. Early in the year many children dart like butterflies from one centre to another, unable to settle for long at any one place. Soon, however, they develop preferences and become absorbed in these self-chosen activities for lengthening periods of time. Again, there are individual variations. Sam, a specialist, spends all his time at the woodwork bench and becomes extremely skillful at using tools. He arrives in the morning with ideas and carries them out with painstaking care. Helen, a generalist, has tried every activity in the room. While she has not achieved the level of skill in any one area that Sam has in carpentry, she is beginning to concentrate for longer periods and is becoming practised at sizing up situations and making choices.

- **Teacher-Sponsored Activity**

Children's appetite for listening to stories, singing songs, co-operating in singing games and having discussions is growing. Again, individuals start at different points, depending upon temperament, interest and previous experience. In general, however, most children's attention spans increase, and the involved children tend to carry the rest of the group with them. As the year goes on, they are able to sing songs with more verses and enjoy longer stories. Discussions become an occasion for the exchange of ideas as children begin to be interested in one another's personal anecdotes. They bring in books, pictures or toys to show other children, not simply the teacher. At some point during this year being a member of a group will begin to have real meaning to most children.

- **Social Relations**

Five-year-olds become more skilled at solving their conflicts non-violently. They get better (not perfect) at waiting for turns and sharing. They are getting interested in the process of arbitration, in arguing a point, even in listening to the retort. Tempers still flare sometimes, but children should be gaining in self-control and understanding of others. Friendship is an important issue for many fives right from the beginning of the year and gains in importance as the children approach six. Although there continue to be episodes of hurt or anger or disappointment, most children get better at making and keeping friends.

- **Self-Care**

Given plenty of practice, most children become quite independent in all aspects of self-care and, except when an emotional upset causes temporary regression to a comforting dependency, they want to do things for themselves. They are, in fact, eager to help others and derive real satisfaction from performing chores and projects with or for the group.

- **Keeping Track of Changes**

As the year progresses you should be aware of the changes in the group and in individuals. Notice, record and date the singing session in which you first sense a group feeling, when each child's delight in making music and being together enhances the enjoyment of every other person. Record the day that Myron first stands up to Betty or Keith paints for five minutes without becoming distracted. Keith's achievement is significant for him even though on the same day Sean spends twenty minutes drawing a tarantula.

You should expect to see general trends toward complexity, elaboration, perseverance, independence and collaboration. At the same time, your expectations for individual children should be tempered by your knowledge of each one's starting point.

Special Concerns

Besides the normal variation, there may be children who do not seem to be making progress or children whose behaviour seems troubled or different enough to be striking. When should you be concerned?

You have legitimate cause for concern when, well into the term,

- *a child's speech is totally unintelligible,*
- *a child's use of language is very immature, e.g., uses only two or three word sentences,*
- *a child is frequently so violent and impulsive as to endanger others,*
- *a child is completely passive and withdrawn,*
- *a child is unable to make a friendly connection with other children or with you,*
- *a child behaves in a way that seems bizarre or inexplicable,*
- *even when measured against her own starting point, a child seems to be making no appreciable progress cognitively, physically, socially or emotionally.*

Examine your expectations

In such instances you look first for ways to help within the context of the program. It may be useful to look back through the earlier chapters of this guide to remind yourself of normal five-year-old development and ask yourself whether your expectations are realistic. When you do have serious concerns about a child it is important for everyone's sake — yours, the child's, the parents' and the other children's — to do something about it.

The first step, while it may seem passive, is extremely important: you should take a few days for concentrated observation of the particular child. Note how she be-

Examine the child's behaviour. . .

haves during various activities, in different parts of the room, at different times of day, with different peers. You may identify areas of strength you can build upon or clues about which situations trigger troubled behaviour. Note, too, how the child relates to other adults. It is possible that her problems in school stem from her relationship with you. That is a humbling thing to discover, but if you're honest and can retain your sense of humour it can be a helpful discovery. Perhaps there's someone at home of whom you remind her just a bit too much. In that case, changing your own behaviour may make a big difference. (Like the child who said to his teacher, 'Mrs. L., you sound like my grandmother — nag, nag, nag!')

. . . and your own

If the problem continues to seem serious after this closer look, you'll need some outside help. Talk to your principal or to a trusted teacher friend whose methods you admire before speaking to the parents. It will help to talk the problem out; explaining it to another person helps you clarify the issue for yourself. Give concrete examples. Ask the principal to observe the child in the room. Together you can decide on the best strategies for working with the child and parents. Remember that there are other sources of help available, including Department of Education Consultants in Early Childhood Education, Guidance and Special Education.

When children with special needs are included in your class you should communicate with the Early Childhood Consultants and other appropriate professionals right from the outset. They can help you plan necessary program modifications and work out expectations that are appropriate for the child. During the first year of school, however, there is a good chance of discovering children whose special needs have not previously been identified; you will need to be prepared to encounter children and special situations you haven't planned for.

Sharing With Parents

The most accurate and distortion-free way of communicating with parents about their children is face to face. It is a good idea to plan a parents' meeting early in the year as a time to get acquainted and for you to present your program. Holding the meeting in the kindergarten room itself will help you convey a clear and concrete idea of what kindergarten is like and will also help parents feel more comfortable about coming to the school at other times.

Parents' meetings

Work meetings where parents can dress informally are practical for getting things done and also help break the ice. Parents can get together to sand blocks or sew doll clothes. Following up with a pot luck supper ends the evening on a festive, convivial note.

Preparing for conferences

Observation provides the information for conferences

Later, perhaps in November, you can schedule the first parent-teacher conferences, although you will probably have been in informal communication with some parents before then. It is important to remind yourself and somehow convey to parents that the conference is a two-way discussion about their child. You should be prepared with specific data, some of the child's favourite books and a collection of his work: paintings, drawings, models, dictated stories, notes, labels he has written or dictated, etc. Your observations will enable you to describe a typical or representative day for their child: the activities he chooses and the children he plays with. Reviewing your notes and samples before the conference will help you to share your perception of how he is developing at school physically, cognitively, socially and emotionally. The parents can share their knowledge of his interests and occupations at home as well as their impression of how he is adjusting to school. They may have questions or concerns about their child or the kindergarten program. If there are serious problems or concerns, it may be necessary to arrange another conference.

Some parents cannot leave work or get a drive from home during school hours, so you may need to schedule some early morning, lunch-hour or evening meetings. Be flexible, but don't wear yourself out. Schedule conferences during working hours when possible; many employers are willing to free parents for school conferences once or twice a year.

The conference is for sharing ideas and insights

The main purpose of the conference is to make contact and share ideas. Remember that many parents feel nervous and sometimes defensive. Try to put them at ease, and make it a real dialogue. If you share your appreciation of their child as a unique and interesting person, making it clear that you don't feel you know more about him than they do, they will be eager to hear about how he is doing in kindergarten and to share with you something of what he is like as a family member. The conference will give all of you a new perspective on the child. Don't feel that you have to agree on everything or solve all problems then and there.

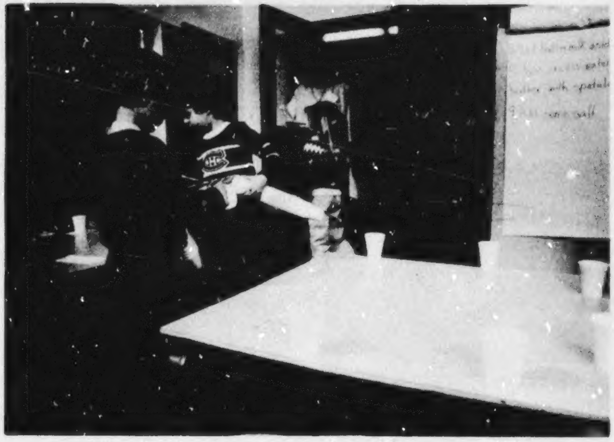
A second conference should be scheduled around March or April, long enough after the first one for changes and progress to have occurred but well before the end of the school year in case concerns surface which should be addressed before school closes. The second conference will be similar to the first but with an emphasis on changes and development since the last meeting.

Written report

Following this meeting it is a good idea to write a summary of your discussion, keeping a copy for yourself and sending one to the parents. If there were contentious issues raised, it is best not to write them in detail; such things are much more constructively dealt with in person than on paper. Your chief communication should be oral; the written report is only a summary of the conference and should not raise new issues. Good communication between parents and teacher is important, and personal conferences are the best way to promote it.

Make it clear to the parents that the conferences, written summary and samples of their child's work are in place of a check list or report card. While some parents may at first feel uncomfortable with an unfamiliar reporting system, most will actually come to prefer it.

You can show parents the particular songs, labels, names and recipes their child reads and can discuss with them the significant experiences or friendships that led to his knowledge. You can contrast a painting from November with those from September, pointing out his experimentation with colour and his changing interpretation of a favourite theme. You can explain how his table-setting reflects understanding of one-to-one correspondence. This kind of personal, concrete information and your careful interpretation are more meaningful to most parents than check marks, grades or comments like 'satisfactory.'



Informal Communication

There are other ways of communicating with parents besides meetings and conferences. For example, many teachers schedule visits to kindergarten the preceding spring and/or arrange for a staggered entry in the fall in order to meet children in small groups. This has the obvious advantage of easing the situation for children but also gives you a chance to meet parents individually and informally. When feasible, home visits are another excellent way to establish personal contact with parents and children.

A bulletin board outside the room is a good place to leave notes for parents who transport their children. Greet these parents warmly as you do children. Sometimes parents will engage you in a deep discussion when you want to be available to the children. Take a moment to arrange a conference or a phone call at another time.

Demonstrate your interest by calling to inquire after a sick child. Ask a parent to write down the words of the song his child has been trying to teach you. Encourage parents to visit. Some may want to share something special with the children: show the new baby, cook pumpkin seeds or read to a few children. Some just want to drop in to see what is going on. Parents who have taken time to watch your program in action can be the best interpreters to other parents.

A Reminder About Readiness

We assume that all children of the proper age are ready for kindergarten, but, since they are very different children, they are ready for it in different ways. The same may be said of readiness for grade 1. You will remember that our goal for kindergarten is to help the children develop their powers as fully as possible. Most parents and teachers can agree on a general goal like this and many would endorse a program of the kind we have put forward here. Yet, when the spectre of grade 1 appears, nagging worries surface. 'Shouldn't they know their letters . . . shapes . . . colours . . . numbers through 20 or 100 . . . beginning consonants? Shouldn't they be able to write their names . . . tie their shoes?'

Some children know all these things before kindergarten. Most of them will acquire these skills and bits of information during the kindergarten year, but a few will not. Some children come into kindergarten with a hunger for books, others are all action — different children with different needs. We have prescribed a program which leaves a great deal of latitude for personal choice. Children will take full advantage of that choice if it is honestly offered.

One child will spend a great deal of his time in the book corner. Another will become a devoted block builder. It doesn't matter; there is scope for rounded development in both places.

It is up to you to exploit opportunities to use reading, writing and numbers in a meaningful context; but remember, not all five-year-olds are equally ready to assimilate these experiences. As long as they emerge from kindergarten with undiminished curiosity, with an interest in books and stories, with enhanced ability to concentrate and persevere and with confidence in themselves as learners, they will be ready for grade 1.

Some will recognize and write all the letters of the alphabet, some will know many letter sounds and be able to use invented spelling, some will be able to read words and sentences. Some children will not know these things. Look at the total development of each child, where he started and what he is doing now. Don't narrow your goals or distort your experiential, play-based program in order to teach skills out of context.

Kits and workbooks will not beef up your program. Gathering everyone each day for a phonics lesson ('only 15 minutes out of their play time') is inefficient. Johnny knows it already. Betty doesn't have a clue what you're talking about. Mark, the only one who's really listening, has just been working on the same problem — figuring out what letter to use for /k/ — while labelling his painting of a car. What's worse, scheduling this phonics or math session interrupts many play projects, some of which, like Mark's, are directly related to phonics or math but in a more meaningful, individually significant way. Some children will conclude that there's no point getting *really* involved with something because they'll only be interrupted.

By all means show Benny how to tie a bow when he's putting on work boots in the dress-up area, and help him write his name on his picture — even compare the beginning letter with the B in Betty's name. There are plenty of opportunities to teach these things in context. *How soon* a child learns something is less important than how well. Better a late but interested and confident reader than an early but anxious one.

MATERIALS

Introduction

The materials in the kindergarten range from highly structured toys like puzzles or pegboards, through the semi-structured ones like blocks, to the completely unstructured ones like sand and water. There are many learning possibilities inherent in all these materials but especially the unstructured and semi-structured ones. In this section we will take a closer look at some particular materials to see what potential they have for different children and how teachers might extend and enhance the children's experience.

The materials contain possibilities which the child explores. As a watchful teacher you work to extend these possibilities, guided by the knowledge of the children which you have gained through observation and interactions with them. You will also be guided by your knowledge of the material. It is our hope that you will pursue this knowledge by taking time to experiment with the materials in a reflective way when the children are not there. The idea is not to teach children what you discover but to experience for yourself the feeling of working with the material, its scope and special qualities, so that you will be more sensitive to the children's experience and more able to enrich it for them.

As you watch and work with children you become a more discriminating observer, noticing how many elements are involved in an apparently simple activity. You will then be able to use the activity to support the children's growth. This growth may be in their understanding of the properties of water or the conservation of volume. It may be in their physical strength and co-ordination, their language abilities, their interest in each other or confidence in themselves.

Water Play

Water is a particularly versatile medium. Children are familiar with water and have experienced some of its properties. They have encountered it in a variety of settings so different that they may not connect them. They drink water from a tap when they're thirsty, run through water spraying from a lawn sprinkler on a hot day, lick icicles in winter, play and wash in the bathtub, and swim in a pool or lake or the ocean. They will vary in the amount of time they have had to play and experiment with water as parents vary in their tolerance for mess or delay. Does the child have time in his bath to squeeze the sponge dry and watch it fill again until it's sodden and drippy or is bath time a quick, businesslike affair?

Let children experiment freely

We help children derive maximum intellectual benefit from water at school when we give them time to experience it fully. The first question a child asks of any material, whether she asks it aloud or not, is 'What will it do' or 'What can I do with it?' That is also a useful question for you to ask yourself of any material you make available to children: 'What can they do with it?' Even with such a familiar material as water, we need to think first of letting the children experiment freely to discover what it is like, what it will do. A child may swish her arm back and forth in a tub of water, testing the weight and pressure of it slowing her hand at the bottom, listening to the lapping sound, noting the wave patterns. She will lift her hand and watch the drops. Water can be poured from containers, blown with straws, syphoned, spooned, put through a funnel or stirred. Water soaks into sponges or sleeves, freezes into ice, falls as snow, evaporates or boils away into steam. Things like salt seem to disappear in water but they transform its taste. Food colouring or soap transform it visually, leading to fresh investigations.

Setting up for water play

At the beginning, as the child explores the feeling of water it is good to start with a fairly simple set-up: floor protected with newspapers or tarpaulin, some protection for the children, warm or tepid water for comfort, and a good solid water container. In some rooms the container might be an extra sink, in others a water table and in still others a table with a basin of water on top. It should be at comfortable child height. A few implements can be set up nearby where children can select them for themselves if they choose. Plastic or metal pitchers and a variety of containers are simple and satisfying and allow for a great deal of experimentation.

Observe and extend the play

You should be near enough to watch and listen. Some children put their musings into words, conversing with you or each other about what they discover or pretend. Depending upon the nature of the play, the children's comments and their experiments, you can change or extend the water play set-up. For example, props like rubber dolls, sponges and soap encourage a certain kind of domestic play, whereas cups, dishes and spoons encourage another. Some children require things of this kind to arouse their interest in water; their involvement with family play takes them to the water basin to wash the baby doll and while there they may become interested in the properties of water and soap bubbles. It would work the other way around for the child who has been intensely involved in scientific water play but hasn't interacted much with other children. This child may be helped to find companionship through a relaxed baby washing session with one other child.

Plan reflectively

Interact spontaneously

It is a good idea to introduce articles sparingly and not all at once. Too many different kinds of things to use in the water may diffuse the children's play and cause them to flit from one novelty to the next. It is better to vary the selection slowly and deliberately. You may think of changes and additions as you reflect upon the day's play and prepare for tomorrow. Sometimes you work from what the children are saying and doing right now, offering food colouring to the child who is inspired by the colour mixing discoveries he's made at the easel, or tiny cups and spoons to a child using very delicate precise motions in pouring and measuring, or supplying a large, empty container for the child experimenting with a syphon. Sometimes the interest shown in one piece of equipment will suggest new possibilities. For example, the children have been using the funnel extensively but some seem to have difficulty with it — what about a wide funnel of the kind used for canning, or conversely, as a challenge to another child, what about a tiny funnel of the kind used to fill a saltcellar?

Any child will show you something about himself in using water. For example, he may devote a great deal of time to pouring from one container to another. You must then ask yourself what the water play set-up offers him. What is the collection of containers like? Are there some which are identical, others that hold the same volume but are shaped differently? Is there a gradation of size? Are some containers clear so that he can compare water levels? Is there a place to set down filled vessels so that he can compare several at once? Are there appropriately challenging pouring possibilities such as small pitchers and large, sturdy cups for the neophyte, larger, heavier pitchers and tiny, light cups for the old pro?

Following this section there is a list of some props and variations for water play. Don't think of these possibilities as providing a sequential curriculum for water; rather, use them as part of your mental repertoire with which you can extend children's questions, observations and experiments.

Water Play Materials

- Plastic and metal containers of different shapes and sizes
- Plastic and metal containers of the same size for comparison
- Containers which hold the same volume but are shaped differently
- Containers with tops
- Marbles, pebbles, for water displacement
- Funnels, assorted shapes and sizes
- Spoons, scoops
- Tubes, syphons, straws
- Meat basters
- Pumps
- Plastic syringe (no needle)
- Bubble pipes
- Cans with punched holes (can opener will do) at different levels (let children do this too)
- Similar looking objects with different properties, e.g. golf ball and styrofoam ball
- Wooden objects, metal objects, corks (some that sink and some that float)
- Boats, other toys that float
- Oil, food colour, soap, detergent
- Eggbeaters
- Facilities for boiling, freezing, thawing, evaporating (remember the outdoors)
- A box or stand in the water container so that things can be set down without spilling.

Variations

- A bucket or large container within the water trough for pouring or exchanging water. One could have coloured water or soapy water or hot water so that mixing would alter the properties of both containers.
- Water play outdoors: hose, 'stream,' sprinkler, buckets of water to use in the sand area. Buckets and large brushes for 'painting' with water.

Experiences

- measuring
- comparing
- displacing
- conveying
- pouring
- dripping
- dribbling
- shaking
- washing
- bubbling
- floating
- sinking
- even drinking

Sand

Observing

Sand, like water, is a basic material with many possibilities for learning. Children should be given plenty of time to play and explore. By observing them at play the teacher can determine when it is best to stay in the background and let them get on with it, when to introduce a new idea through a new prop or arrangement or suggestion and when to draw out the children's ideas through questioning and conversation.

Sandbox

Some children (and teachers) will have had the experience of playing with sand at a lakeside or ocean beach, which is probably the ideal situation because of the unlimited supply and because one is suitably dressed for total involvement, two considerations to be borne in mind when planning sand play in kindergarten. An outdoor sandbox allows for abundance and full access. It should be large and low and filled with sand that is clean but not necessarily as fine as that used inside. The use of the sandbox will be extended if it can be sheltered so that children can play there on wet days. In unfenced yards the sand should be covered when not in use to protect it from cats.

Sand pit

A sand pit, or even an unpaved area of the yard designated for digging, is an additional outdoor resource which will be feasible and not overly expensive in many parts of the province. The pit or pile of sand lends itself to large scale excavation and engineering projects which have an exciting feeling of reality for children. There are also obvious advantages for physical health in this kind of vigorous exercise. Furthermore, the co-operative effort involved in making a big excavation brings children together and provides a meaningful context in which to use language clearly as they delight in their achievements, make plans, and try to make their ideas clear to each other.

Snow play

For much of the year the outdoor sandbox or sandpit may be covered with snow and ice. Don't forget, however, that snow can also be shovelled, piled, excavated and used for large and vigorous engineering projects so, for the winter months, outdoor sand play may become snow play.

Indoor sand

Since you do not need as much sand indoors as out you can use a fine textured variety or even powdered granite. A sand table is great if you can build or afford to buy one but there are many satisfactory alternatives, such as large tubs or trays or plastic wading pools which can be used on a table or the floor.

Advantages

The great advantage of sand, as of other open-ended materials, is that it can provide challenge at different levels of intellectual sophistication and physical skill, or, for the same child, different kinds of activity or focus according to his needs or interests of the moment. Products, in the form of roads or mountains or holes, tend to be ephemeral; therefore there is a natural emphasis on process which is freeing and reassuring for many children.

What are some of the possibilities of sand and how might the teacher further them? Sensory exploration is most basic. The child

Sensory exploration

Textures and patterns

explores how dry sand feels as she sifts it through her fingers and how it changes when she adds a little water. Sieves are extensions of hands for exploring texture. You can supply some extremely fine sieves which will catch the larger sand particles or you might add pebbles or beans for the children to sift out. Some children will experiment with making patterns and designs in the sand. Combs, feathers, sticks or fingers make different sorts of patterns. Encourage the children to find other objects that could make different patterns.

Trucks and trips

Toy vehicles, especially snowplows and graders, stimulate roadmaking play. A trip to see road construction can be used to suggest the idea or to clarify the process and provide information after such play has been going on. On the other hand, the children's interest in sand as a medium and in the different size gradations can lead to an interesting trip to a quarry or to see a sanding truck at work, or the community's source of sand, or to see sand being mixed with cement. If at all possible, arrange to have sand delivered when the children are in school.

Sand can also be used to explore mathematical concepts of weight and volume. As with water play, it is important to have a good assortment of containers. These containers can be recycled stacking toys and kitchen equipment or empty cans and shampoo bottles, but they should be selected to suggest certain comparisons, e.g. containers of identical size and shape, containers which hold the same volume but are of different shapes, similar containers of graduated size, etc. It is helpful if some containers are transparent so that children can compare sand levels. When exploring volume with sand in this way children should be allowed to use it in damp condition so that they can make comparisons of the contents after they are unmolded.

Exploring volume and weight

Balance scales

Balance scales add another possibility for making comparisons. Children can compare the weight of different containers or of wet and dry sand. Some children begin to understand the idea of equal weight as they attempt to balance two containers of sand or to balance a bucket of sand against a bucket of unit blocks. Most children go through a period of loading as much as they can onto the scales to see what will happen. It usually takes some exploration of this kind before they are ready to think of comparing weights. Dramatic differences are easiest to see and understand at first. After they have had the opportunity to make many comparisons of different weights, they can begin to experiment with balancing equal weights. Of course, it is important for them to weigh many substances besides sand in order to broaden the experiential base of their thinking.

Sand — Implements

- Plastic and metal containers of different shapes and sizes
- Plastic and metal containers of the same size for comparison
- Containers which hold the same volume of sand but are shaped differently
- Sieves, colanders, sifters
- Combs, forks
- Spoons: teaspoons, tablespoons, serving spoons, wooden spoons, slotted spoons
- Funnels
- Rakes
- Scoops, trowels, shovels, spades
- Hoes
- Toy vehicles: cars, trucks, construction equipment
- Buckets
- Pulleys
- Balance Scales
- Boards, planks, sticks
- Wheelbarrow
- Wagon

Sand — Variations

- Snow: digging, building, making paths
- Water: to dampen sand inside or out, hose or pipes to make streams, rivers outdoors

Sand — Experiences

- measuring
- filling
- comparing
- pouring
- sifting
- molding
- engineering
- excavating
- rearranging
- making patterns and designs
- weighing

Clay

Clay is a basic and satisfying medium, rich in potential. * It is cool and malleable, for many children a purely sensory experience to begin with. When children are first introduced to clay the teacher should be available to support their experimentation. To encourage them you might even take up some clay to knead or roll in your hands, but you should avoid making figures. Even though you do not intend to establish models to be imitated, children's involvement in their own efforts is diffused when their interest becomes riveted upon your product. They will begin to ask, 'How do you make that?' or 'Will you make me one like that?' rather than asking themselves, 'What can I do with clay?'

Don't make models

Support experimentation

The alert teacher, therefore, avoids making models and helps children focus on the process. She comments upon how the clay feels and what the children are doing, upon Mary's pounding, Evan's rolling, Jimmy's poking. As they become aware of their actions: pulling, squeezing, pinching, rolling, smoothing, imprinting, they tend to extend, elaborate and combine techniques, thus building the familiarity and confidence with the medium that underlies growth in skill. The important task for the teacher is to observe what the children are doing and to give them time and (when necessary) encouragement to continue.

Talk about it

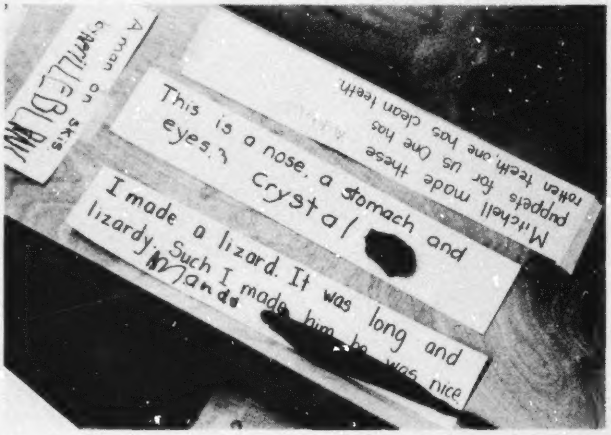
Some children will poke with their fingers, experimenting with making holes or fingerprints. Some will pinch off little pieces to use for a construction or assemblage while others work from the main chunk of clay, sqeezing or pulling out parts. Children will experiment with basic techniques like rolling balls and coils. The teacher comments upon the different experiments: 'You make such a smooth ball when you roll and roll the clay under your palm,' or questions: 'How did you make that long roll of clay?'

Try it out for yourself

It is a good idea to explore clay yourself on your own, experimenting with different techniques. This experience will suggest to you the many possibilities in the clay. As you experience the satisfaction of exploring and experimenting you will gain the sensitivity that will help you understand the difference between furthering a child's experiments and imposing your own plans.

Personal creations

Personal discovery is satisfying at any age but it is especially important for young children. As children become familiar with clay they can use it for their own purpose; that is, they begin to see what they can do with it or make with it and it becomes an expressive medium. The things they make reflect their thinking and feeling as well as their present level of skill. They are, however temporary, artistic productions, individual creations which are a part of the child and should be respected as such.


A man on skis
Mitchell made these puppets for us One has rotten teeth, one has clean teeth.
This is a nose, a stomach and eyes. Crystal
I made a lizard. It was long and lizardy. Such I made him he was nice
Manda

Some children may want to save these creations. You can help them find a safe place for the clay to dry. Later it can be displayed in the classroom or taken home. Many children will not view their creations as finished entities. They will be more involved in exploring the medium. In this case, premature pressure for a product will cut short the exploration process and make the child feel that his work is inadequate. It is best, therefore, to let the child indicate whether he has made something to save.

Children should have extensive experience with clay using their fingers and hands before using tools. Tools can be added slowly, if at all, as children perceive a

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* We're talking about real, organic clay, dug from the ground. It is available from pottery suppliers, see Resource section.

Tools

need. For example, Jean may flatten her clay into her board and then try to scrape it up with her nails. You might ask, 'What else could you use to scrape your clay off the board, Jean?' She might find a butter knife or a spatula in the housekeeping area. Smoothing, scraping, poking or scratching tools will be used as an extension of the child's actions with her hands. There is no artistic superiority in moving from hand to tool; therefore the impetus to use a tool should come from the child herself. You can be aware of and put into words Bill's tool-like use of his fingers: 'I see you're making lines with your nails.' Bill's awareness is heightened by your comments. He may scurry off to get a roofing nail or a pencil to make lines or he may continue using his fingernail — perhaps making curving as well as straight lines now.

Display

As children work with clay themselves they will become more interested in other people's work. You may want to bring in pictures of pottery and statuary as well as actual samples of earthenware and stoneware to display in the classroom to deepen their interest. Photographs of the children's work accompanied by their comments could be collected in a scrapbook to form a record of the learning situation for the children to read and enjoy and to share with parents and other visitors.

Storage

It is a good idea to keep clay where it is always available to children. It can be stored in a large crock or a plastic tub with a tightly fitting lid. Clay should be kept moist with damp cloths or sponges. It is convenient to keep it rolled into balls for individual use. Clay that has dried out slightly can be wrapped in damp cloth overnight. When it gets quite dry it is not spoiled but does require some work to reconstitute. You must crush it into small pieces and soak it thoroughly for a few days and then knead it to the right consistency. The process is messy but fascinating and magical to children. Outside on a warm day it is a wonderful learning experience.

Dig your own

If you and the children become really interested in clay you should try to locate a source near you. There are quite a few clay beds around the province. If there is one reasonably close it would be well worth investigating. Perhaps some or all of the children could accompany you on a digging expedition. Digging, screening and kneading clay is just the sort of important work that five-year-olds love. Furthermore, it would be an experience in tracking a material to its source, a significant and satisfying accomplishment for children (and adults) in the 1980's.

Play Dough

Play dough shares some of the advantages of clay: it is malleable, adaptable, and has the potential to provide pleasant, successful experience for children at very different levels of skill. Many of the teaching ideas in the *Clay* section apply to play dough as well. Here we shall stress some points that are peculiar to playdough.

- Play dough is made from ingredients found in almost every home.* This gives it the appeal of familiarity. It is relatively easy to mix up play dough at home, making for a nice concrete link between home and school.
- Following a written recipe for play dough is excellent practice in reading. If some children elect to copy the recipe to take home, they will have meaningful writing practice as well. But remember, the mixing and modelling experiences are valid in and of themselves.
- Play dough can be edible. A group of children who have often made play dough can branch out into making crackers or biscuits which require similar techniques. (Items to be eaten should not be artificially coloured, even with food colouring, because some children are allergic to these substances. Food colouring has been linked to hyperactivity in some children and may have negative, if less dramatic, effects on others.)
- To some children play dough seems cleaner than clay; they may feel more comfortable about handling it. Children who do not want to touch the dough can handle it indirectly with tools or utensils.
- Play dough lends itself naturally to housekeeping play. Utensils like rolling pins, cookie cutters, muffin tins, forks and pastry wheels can be used to advantage.
- Play dough does not hold its shape as well as clay, which makes it less appropriate for ambitious modelling.
- Play dough can be used very satisfactorily without colour. If you do wish to colour it, you can add food colouring to the water when you mix it up. Children also love to paint their uncoloured creations, after they are dry, with either food colouring or tempera paints. Items made this way make excellent props for house or store play.

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* Please see the Resource section for play dough recipes.

Plasticine

Plasticine is another useful modelling material. It holds its shape well and comes in a variety of colours. Plasticine tends to be more popular with teachers and some children than clay or play dough because it is less messy. It will not dry out completely but it can become very hard and difficult to work with. Warming it usually restores its plasticity. It helps to keep it in an airtight container. Plasticine is good to have on hand for making things that are needed without delay, such as counter weights for balance scales, substitute game pieces, finger puppet heads or bases for dried flower arrangements. Because it can be used in cases like these, just as the need arises, plasticine encourages creative problem solving.

We strongly recommend that you make all of these plastic materials, clay, play dough and plasticine, available to your children. Each one has unique advantages, each one has special appeal for particular children.

Painting

Painting is an activity which will mean different things to different children, depending upon their familiarity with the medium, their manual skills and their purpose for painting. The purpose may be exploration of the material, experimentation with shape, motion or colour, the urge to represent a significant person or object or the need to express a strong emotion. Typically, a child's motive for painting is some combination of these. For example, John approaches the easel out of curiosity and, because the array of colours is appealing, he becomes involved in sweeping on great swaths of red. He finds in a shape he has created, a pattern which has meaning to him. He gives it a name: 'fire engine.'

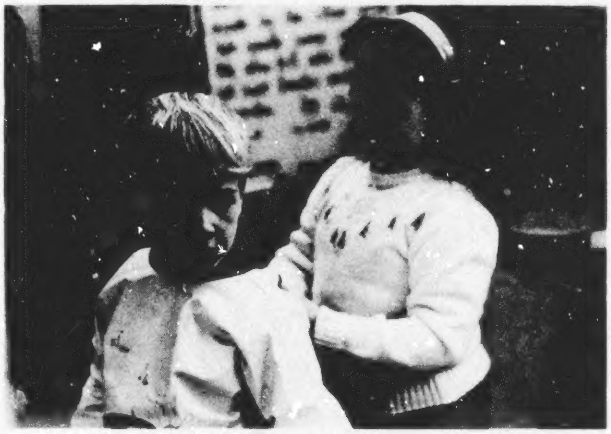
An expressive medium

Visible action

For the teacher there are many different reasons for offering the painting experience. Paint is a most important expressive medium. It offers the child a dramatic way to make an impact on the environment, to make a statement. Painting and the other creative media have an important integrative function, bringing together thought and emotion, actual experience and imagination. A collection of a child's paintings over a year is a valuable record of physical, emotional, intellectual and aesthetic development. Painting helps to develop the child's perceptual-motor awareness and skill. Experimenting with the brush, Susan learns how far to dip it into the paint and what sort of marks result from a sweeping or jabbing motion. Her eyes confirm the evidence on paper of patterns she makes with her muscles. In this sense, the track of paint across the paper is like the tracks of her feet in the snow, showing where she has come and how she got there. As she strokes on line after line or taps out a series of dots or sweeps on a circle, she confirms the connection between purposeful action and graphic results. As she gains experience and experiments further, she will refine her technique and shift from a power grip to a precision grip for increased delicacy and control. A child painting for the love of it cannot help gaining in co-ordination and skill.

Writing play

Experimenting with line and shape while painting, is an excellent introduction to writing. In fact, many five-year-olds incorporate letters and numbers into their painting, as much for their design qualities as for their symbolic meaning. Such play and experimentation is the child's pleasant and natural way of incorporating these symbols into his repertoire. Like word play, it is a valuable forerunner to literacy.



If we are serious about wanting children to become confident, purposeful and fluent writers at a later time, we will make sure that they have frequent opportunities to 'make their mark' colourfully and dramatically in paint throughout the kindergarten year.

Organization of materials

As always, the organization of material is important. An attractive and accessible arrangement should allow children to find what they need and get started without too much delay. Painting paper should be large enough to accommodate the young child's sweeping arm movements (24" x 18" newsprint is standard). Powdered tempera is the least expensive and most versatile form of paint. Mix it smooth and thick, adding water a little bit at a time as you would do with cocoa. It can be made up in sufficient quantity to last for several days and set out in the easel in small quantities which can be replenished. Red, yellow, blue, black and white are the only colours necessary. All others can be mixed from combinations of these. The three primary colours should be steady fare so that children have plenty of opportunity and motivation to mix secondary colours. Some teachers prefer to add black and white later on.

It should be possible for children to keep their colours clean if they want to. This can be achieved by providing a brush for each colour or by keeping water and a wipe-off sponge at the easel.

Mixing colours

You can show children how to wipe off their brushes and keep their colours pure, but you should not insist that they do so. The accidental mixing of colours can lead to a thrilling discovery. Moreover, most children do not want to stop with mixing just two primary colours to get a secondary one. They want to continue the process. The resulting earth colours may be more beautiful to the child who created them than the most brilliant green or purple. What is important is the child as creator, trying a dab of black and a dab of blue as a creative chef combines herbs.

You need not feel compelled to whisk away these mixed paints before the next session. Other children as well as the original mixer might like to paint with this set of homemade colours. Those children who do prefer to start fresh with primary colours will be helped in their aesthetic development if they discover their preference through experience instead of being greeted automatically each day with a magically renewed array of unmixed colours. For them, the experience of mixing up a new batch of paint with your help at first and later with a picture recipe will be purposeful and rewarding.

If you want to encourage more colour mixing, you might provide children with extra containers for blended colours or with palettes. Metal or styrofoam food trays or muffin tins make light and attractive palettes. You might also want to extend the colour mixing experience to other areas. Food colouring with water or play dough, finger painting, tissue collage, coloured lenses and gels are a few of the possibilities.

Observing individuals

You will promote painting activity through the provision and display of attractive materials, but your contribution to the process does not end there. Although you will not always be close to each painter for each painting, it is important for you to take some time to observe each child as he works so that you can see the process as well as the finished product.

How does Benny use the paint? What is the quality of his approach? What techniques does he employ: sweep, jab, dab, swirl, scrub? How does he arrange colour? Does he build up layers of paint? Does he mix colours? Does he use a power grip or a precision grip or does he alternate? Does he work quickly or slowly, with concentration or distractedly? Does he paint representationally? Does he talk about his picture? Does he try to paint his name? Does he want to put the picture up on the wall or take it home or does he lose interest in the painting once the process is completed?

Sensitive communication

Extending vocabulary

Many teachers are aware that evaluative remarks or pushy questions can inhibit a child. To say 'What is it?' when it may not be an object with a name but rather an exercise in filling the page or 'How lovely' when the painting is, in fact, an expression of a fearful experience, is to talk for the sake of talking. You need not, however, retreat into the distance. You might watch in companionable and respectful silence, wait for the child to talk, or invite him to tell you about his picture. You can help him tell about more than the representational aspect of his work by commenting upon his motions or the colours, shapes and contrasts he employs. Children enjoy recalling how they made a painting or showing the details of a design to an appreciative adult. Such conversation deepens their understanding of composition and technique at a concrete level and enhances their ability to communicate verbally as well as graphically.

Painting can be both an experience in itself and a representation of other experience. Children need

Representing

Need for familiar procedure

plenty of time to explore the possibilities of the medium and to master the mechanics of the process. As they gain this mastery, they are able to expand the use of paint to express feeling, to represent familiar objects or experiment with colour and design. If we vary the set-up too frequently, children will always be in the position of beginners. They will have to struggle once again to become familiar before they can fully express themselves. It is wise, therefore, to establish some secure parameters for painting, a place and procedure the children can depend upon and become familiar with.

Variations

Within those parameters it is possible to make variations, to introduce a palette, to provide horizontal surfaces for children who usually use an easel and vice versa, to introduce white, to vary the shape, colour or texture of the paper or the size of the brushes. Such variations should be introduced gradually and for sound reasons that are based upon your observation of the children at work. The children themselves will develop their own variations and their own uses for paint. They may paint their wooden, clay or cardboard constructions or combine paint and collage. Painting easels can be taken outside on a nice day, a variation in setting which will captivate many children.

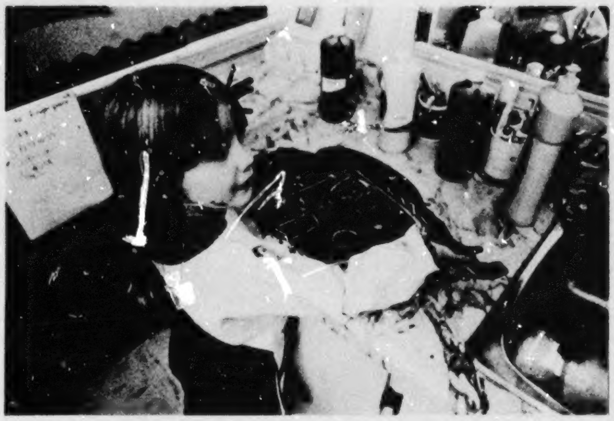
Repeated experience with basic art media

It is far better for children to have the opportunity to experience a few rich media in depth than to be faced with an ever-changing array of 'art projects.' They and we need to discover what they can do; this does not happen when we constantly impose our own ideas upon them. Materials like paint and clay are infinitely variable, responsive and satisfying to the artist at five or ninety-five. As they use paints over a long period of time, children learn to vary their techniques to achieve different effects. They are active experimenters, gaining mastery of the material and confidence in themselves.

Finger Paint

Finger paint is such an important variation of painting that it seems to us to warrant separate discussion, especially of those aspects that distinguish it from brush painting.

- Finger paint allows the direct use of hands and fingers without an intermediary tool.
- This direct contact with the medium makes finger painting a rich sensory experience, one which focuses children's attention on process.
- Children have a great deal of control when working directly with their hands; there is no brush to wobble, no liquid paint to drip; they can make marks of any size simply by using different parts of their hands. Exercising this degree of control inspires confidence.
- Patterns and marks made with finger paint can be smoothed away in an instant. This can be reassuring to children who worry unduly about making things 'right.'
- The fact that they can change their pictures so easily frees children to experiment.



- When children paint with two hands at once, as they often do, the action of their two arms working together is immediately evident in the resulting symmetrical pattern in the paint.
- Lines show up clearly in finger paint. Writing is easy to control (and erase) in this medium, which may be why some children first experiment with writing letters or words when finger painting.
- Children who are reluctant to touch the paint can use an intermediary object like a paint brush or stick. Another child might elect to use such an object in addition to fingers in order to get a different pattern or effect.
- Finger painting seems to work best for young children when they can paint directly on a smooth, sturdy, washable surface like a table or counter. Paper, even heavy butcher's paper or special finger paint paper, tends to shift, tear or bunch up. When sharing a large undelineated painting space like a table, children are more likely to collaborate on and discuss their pictures. If you or the children want to preserve their pictures, you can take a print by laying a piece of paper down on the painting surface, pressing it down, and carefully pulling it off — an intriguing process in itself. Prints are more satisfactory than pictures done directly on paper, which tend to be so heavy with paint that they crack and curl.

- Commercially made finger paint is quite expensive. It is cheaper and generally more satisfactory to make your own by combining colour with a thick, slippery base.*
- An appealing variation to pre-coloured finger paint is to mix up the paste and let the children add paint separately. It works very well to put small quantities of powdered tempera into shakers. This technique makes mixing colours a delightful process and encourages experimentation.
- Because finger painting can be messy, some teachers avoid it. Careful planning and thinking through of the process will help keep you from being overwhelmed by logistical problems. It is probably wise not to plan finger painting for the first few weeks of school but to wait until you know the children and they have become comfortable with group living and new routines. You should limit numbers, perhaps by having a sign-up sheet. Smocks should be easy to put on and kept nearby. It helps to have a sponge for every one or two painters and to remind them to sponge off the front of the table every so often; that's where the paint builds up and gets smeared on the children. Locating one or two buckets of warm soapy water and a towel right near the table avoids the pile-up of painty children at the sink.

After you and the children get used to the procedure, you will take it in stride. A certain amount of mess seems to accompany creative activities. This is perfectly all right; it is good for the children *and* their teacher to know that they are capable of making a mess and cleaning it up.

Collage

Collage is an excellent art form to use in kindergarten because of its versatility and potential for heightening sensory awareness.* Selecting and arranging materials for collage is a useful experience in classifying, labelling and spatial awareness.** A collage consists of materials attached to a base. It can be simple or complex, according to the taste and experience of the artist.

Materials to be Attached

It is not difficult to assemble a rich and varied assortment of materials for collage. Consider texture as well as appearance. Recycled materials can be used if they are clean and attractive; mildewed fabrics and battered egg cartons do not constitute an aesthetically appealing collection for collage. Below are some examples of materials, a rather arbitrary list just to start your thinking.

- Fabric: Burlap, linen, cotton, satin, eyelet, velvet, corduroy, seersucker, nylon, knits, prints, checks, plaids, stripes, dotted swiss. You don't need a lot of any one kind. Fabric should be clean.
- Yarn: Fine, thick, textured, synthetic, wool, cotton, string, twine. Again, you don't need very much of any one kind. To keep yarn neat, attractive and accessible, wind it around old thread spools, sticks or stiff cardboard and tape the end with masking tape. Some children enjoy helping to wind yarn and sort the yarn box. It's a good opportunity to classify, talk about colours and feel useful. Very snarled pieces can be kept in a separate box to be snipped into short pieces or used as they are.
- Natural Objects: Seeds, cones, leaves, grasses, shells, feathers, pebbles, insect wings or shells (deceased insects only), bark, twigs.
- Found Objects: Smooth beach glass, broken toy parts, foil, cellophane.
- Paper: Paper scraps — consider shape, colour, texture. Tissue, gift wrap, paint sample cards, wall paper, gummed paper, greeting cards, catalogues, magazines, newspaper.
- Miscellaneous: Pipe cleaners, fur, rubber bands, cotton balls.

Base Materials

Sturdiness is important here. It is a real experience in problem solving for a child to select an appropriate base for his materials. He may have to learn from experience that a piece of construction paper will not support the weight of sea shells.

- Wood: Driftwood, wood scraps from the carpentry bench, hardwood scraps unsuitable for carpentry, branches, cross-sections of logs.
- Cardboard: Shoeboxes, box lids, poster-board scraps, printer's off-cuts, expired posters. Supermarkets usually slice off the top of cartons as they unpack,

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* Please see the Resource section for finger paint recipes and additional resources.

* See reference to collage under *Sensory Awareness: Touching*.

** For some more ideas about how to provide experience in classifying, labelling and spatial awareness, see sections with these titles.

leaving about an inch of the side attached. This makes a shallow, tray-like base which frames and protects the design.

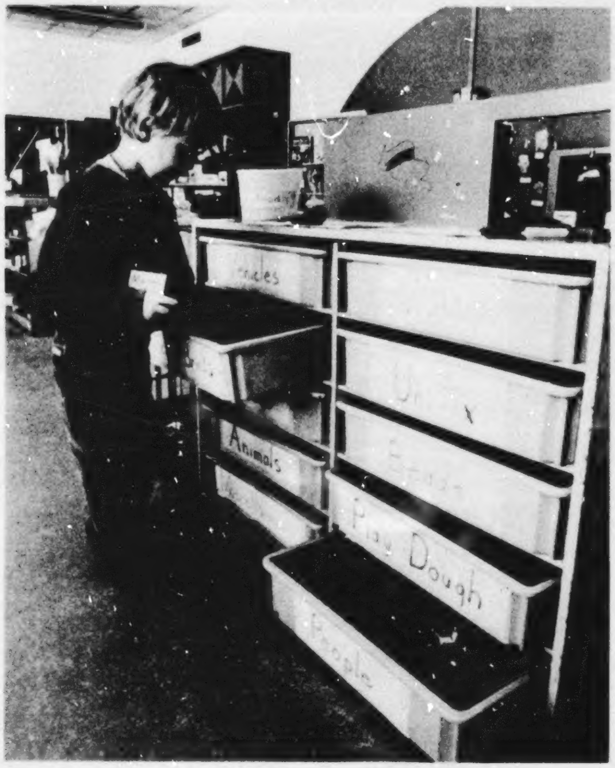
- Styrofoam: Packing slabs come in interesting shapes.

'Attachers'

These would include: glue, paste, mucilage, plasticine, tape, string, staples, nails, pins.

Storage of Collage Materials

Materials for collage should be stored in such a way that they are easy to find and to keep organized, perhaps in drawers, or in boxes on shelves. Since many potential collage materials are used for other purposes as well, and since creative collage making is often a gathering together of previously unrelated objects, you will probably not keep all collage materials together but will most likely sort and label them under such categories as *yarn, cloth, buttons, fancy paper,* etc. Try to use categories that are meaningful to the children.



Selection and Presentation of Materials

Collage can be one of the regular options for the activity period. In this case, children will help themselves to the materials they need to complete their project, according to their ideas and inspiration.

When planning collage as a special activity, however, it works well to make a preliminary selection of materials and to arrange them attractively in a convenient area. Narrowing the field of choice can suggest a certain emphasis without constricting creativity. If you want to encourage the children to work with texture, for example, you might limit the range of colour, and vice versa. One day the assortment might consist entirely of paper or of yarn. Certain selections are especially appropriate for exploring ideas that are suggestive at certain times: gift wrap and greeting cards at Christmas time, for example, or pussy willows, flowered wallpaper and garden catalogues in spring. (This is as close as we'd like to see you come to 'themes' in art.) Collage may be the best way to display the collections of a nature walk. For children who are beginning to write and to use letter forms in their paintings and drawings, gummed letters of the kind used for gift wrapping and posters, are a particularly appealing material for collage, perhaps in combination with a lettered base, such as newspaper or magazine pages.

Often you will present a wide and varied collection. In this case, it is by arranging the tools and materials attractively and conveniently together that you structure the experience. Remember that selection is what makes collage a meaningful experience for the children; this means freedom for them to select materials and arrange them. The collection of materials should, therefore, allow real choice. The teacher's aim should be to arouse interest, get ideas flowing and build confidence. The final product, including choice of subject, should be for the child to determine.

Blocks

Arrangement

A collection of unit blocks is one of the most important items of equipment in the kindergarten room. As with other materials, the attractiveness and accessibility of their arrangement influence the quality of their use. Long, low shelves help to organize the blocks and delineate a building area which should be large enough to provide room for several builders. The blocks are arranged by shape with their lengths visible so that the child can tell at a glance what is available. Such an arrangement facilitates selection and planning and also ensures that all contacts with blocks, including selecting them and putting them away, will involve the child in using a system of classification. Some teachers label each shelf with an outline of the block that belongs there and with its name. This system allows children to match blocks to other blocks, to a two-dimensional shape or to a written label. Don't pack the shelves too tightly or stack the blocks too high; children should be able to remove them easily.

Blocks are more structured than sand, water, paint or clay, not so fluidly adaptable. But, because they are firm and solid and their shapes and sizes are harmoniously related, a child can make something which feels clear and satisfying the first time he builds. Such first attempts may consist of stacking the blocks or lining them up end to end or side by side.

Experimenting, discovering

Children need to discover for themselves what blocks can do, to feel how smooth and heavy they are, to discover which ones will balance upon which others, to note the relative stability of a block placed on its end, on its edge or on its width. A child who has never used blocks before will usually begin with simple forms; it takes time to work out the possibilities. Sometimes one child's discovery will catch on and other builders will take on her building technique for their own purposes because, for most children, block building goes on in a social context. They gain ideas from the builders around them, whether they are actively and intentionally collaborating or just noticing another child out of the corner of an eye.

Try it out yourself

It is worthwhile to spend some time on your own discovering the possibilities of blocks; what are some ways to build high and fast, what techniques and combinations of shapes create strong, solid structures? The idea is not to learn 'how to make a house' but to discover that there are many ways to make houses. There are some other discoveries you will make as well; for example, block building is more difficult than one would at first imagine. If you attempt to make representation of an actual structure, whether cottage, office building or bridge, you will find the process complex and challenging. We hope that you will also recognize from your own experience that the knowledge of blockbuilding is something you construct for yourself. Mind, hands, senses and experience all combine to build this knowledge of what different shapes will do.

Investigating

Because of their firm geometrical shapes, blocks lend themselves very well to representations of the man-made world: houses, skyscrapers, fences, barns, roads, bridges, ramps, dams, hangars and runways. They thus become an important tool for the children's investigation of their community, its places and people.

Appreciating relationships

The value of making block models of familiar places extends beyond the construction phase to the dramatic play that often follows. As they build and play together, children are forced to work out the relationships between this one's farm and the other one's store. Such active collaboration deepens their understanding of the social interactions of their community in a concrete way.

Problem setting . . .

You contribute to this kind of learning as you interact with the children, in the way you help them to resolve territorial disputes or other questions that come up as part of their play like 'You couldn't have a house without a chimney, could you, teacher?' By turning the question back to the children you can capitalize upon a dispute to deepen their understanding of their world. How do neighbours divide the land between them? What are property lines? Why do people build fences and how do they know where to put them?

The children may need to pace around the school's boundaries or investigate the boundaries of their own yards before arriving at what seems like an equitable use of the block area.

. . . and solving

Must a house have a chimney? How else would people keep warm? Two boys in a kindergarten class answered this question by building a solar house. They wondered then about keeping warm on cloudy days and decided to build a small chimney for a small wood stove — just in case.

At times like these you work to

Persevering

extend the children's thinking, sometimes by asking a question, sometimes by introducing pertinent information through books, visitors or trips, and at other times by leaving them alone to work out their ideas themselves. In the last case you still play an important part by providing the time, space and scope for them to do so. Children will not reach a level of deep involvement if their play periods are short and chopped up or if a rigid system of rotation to interest areas is maintained, preventing them from pursuing an idea over time.

Respect children's work

When two classes share the same room the teacher (or teachers) will sometimes need to find a way for children to keep their buildings up for a few days.

Representing

Different children will approach the blocks differently. There are dedicated builders who use the blocks at every possible occasion, exploring their technical possibilities or playing out themes of the adult world. Other children are drawn to the blocks only occasionally when a strong impression seeks an outlet. Michelle, for example, had never used blocks until the Monday following a weekend trip away from home. On that morning she made a bee-line to the block corner, where she quickly and surely built a tall bridge. Later, when she described the impression of looking down from the bridge to the tiny boats below, her soaring block model helped the other children to picture the scene and to relate it to their own experience.

Perceiving relationships

Co-operating

Robbie used the blocks in a similar way to make a model of the sawmill his parents operated. The marvelous transformation of logs to lumber fascinated him. Although his building powers were limited at first he managed to construct a narrow archway of long blocks through which he fed other long blocks, to the accompaniment of loud buzzing. Feeding the log through without knocking over the saw proved difficult, so Robbie had to recruit some helpers. The co-operation and animated sharing of ideas that followed marked his first real involvement with other children. As they rebuilt the sawmill for many days, Robbie became much more skillful at controlling and balancing the big blocks. Thus the experience was growth producing intellectually, socially and physically.

Shapes

Blocks are also an excellent resource for learning mathematical concepts. One example is shape. There is a wide variety of geometrical shapes in the unit block collection in the three-dimensional form that is easiest for children to grasp. Furthermore, because they must consider the shapes as they use them, children gain an understanding of their properties beyond the superficial knowledge of their names. Children do learn the names of shapes incidentally but lastingly as they request blocks or discuss them with you. Labelling the block shelves with silhouettes of the blocks helps the children make the connection between the three-dimensional shapes and their two-dimensional forms.

Predicting

The proportional relationship of one block to another invites investigation of these relationships by the child, especially when you ask questions or make comments that emphasize these relationships: 'I see that you don't have any of the longest blocks left. What will you substitute to make a wall as long as your other walls?' The child gains a broader understanding of the concept of equivalence as he builds walls of equal length and equal height. If he wrongly estimates that two walls are of equal height, the physical consequences will correct him; the roofing board will slither off.

Because of their regularity, blocks make good units for weigh-

Measuring

ing, measuring or counting: 'How many blocks high?' 'My building is taller than Ian and shorter than the teacher.' 'The guinea pig is as heavy as a unit block and a half-unit block.' 'We'll have to remember who is ordering soup this morning. Let's put a block on this pile for each one.'

Reading

Block play seems to elicit a great deal of talking. Children use language to describe their buildings, to enlist other builders in co-operative play or to make comparisons — complimentary or invidious. When children begin to name their buildings, the teacher can help out with labels: POLICE STATION, FIRE HOUSE, HOSPITAL, DANNY'S DRUG STORE. And, since involved builders sometimes like to leave a building standing for awhile, they need labels of another sort: PLEASE DON'T TOUCH, DO NOT KNOCK DOWN MY HIGHWAY AND BRIDGE.

In all these ways then, block play helps extend and clarify children's thinking, promotes social interaction and contributes to language and perceptual-motor development.

Girls need blocks too

Because blocks tend to have a great appeal and fascination for boys, many teachers unconsciously let them pre-empt the block area. But block building is equally important for girls, so you will need to find some way to safeguard their opportunities. It is not necessary to be rigid about taking turns, but you should be aware of who uses the block area so that you can ensure that all children get a chance to try it out, whether they've requested a turn or not. After all, we don't miss what we've never had, so you cannot assume that the little girl who always heads for the easel or the home corner doesn't like blocks. She may prove to be an eager and exciting builder once she's begun.

Adding props

Accessories can often enrich block play. Toy people, animals, vehicles and signs can be inspiring to builders but need not be numerous or elaborate, nor should they all be provided by the teacher. Finding a little driver for the log truck, making traffic signs or discovering a cosy rug in the sewing drawer are all valuable exercises in problem solving for the children. Twigs, fabric scraps, carpet samples, smooth stones and shells are all potential block accessories. You and the children might want to save nice little containers, bottle caps, pieces from forgotten games and odd bits of wood in a box near the block area so that they can be used as the occasion arises.

The relationship of direct experience to play

There are some children, particularly those fed a heavy diet of T.V. and meager doses of exposure to real life experience, who will have difficulty in settling down to productive play. Such children will dart around from place to place or perhaps engage in a frenetic bit of dramatic play with a hastily built prop: four walls for a hospital, a platform for 'the Dukes' car, or simply some unit block guns for a shoot-'em-up episode. Since these children often appear bored in the kindergarten room, their parents may conclude that they are too sophisticated for play and should be moved along to more formal learning activities. In fact, these are the children who have the greatest need for play, in order to clarify their thinking and to reach some understanding of the disconnected scenes and episodes with which T.V. bombards them.

It is helpful to take these children on neighbourhood trips to places where adults are busy with active work that children can imitate, places like the fire station, beauty parlour, parking garage, grocery store, gas station or shoe store. These adult roles can be repeated by the children in dramatic play of all kinds. Moreover, the structure and arrangement of space in these buildings reflects their function, a relationship that can be expressed well with blocks.

As always, you work with the play, not against it. Instead of outlawing 'Dukes' games or keeping certain children out of the block corner, you look for the elements that the children are attempting to capture in their play and find ways to build upon their interests. This may mean taking them to a garage where they can see cars being fixed or a junkyard where cars are stripped for parts. As children watch mechanics at work and handle car parts, they get a more realistic understanding of cars (functional and breakable) than they get from T.V. Later, when they build a garage with blocks, they can make a more detailed job of it. Their concepts are more solid because they are based on experience with real people and objects.

Woodwork

Using tools

The opportunity to work with wood is satisfying for five-year-olds. Carpentry is a distinctly grown-up occupation, one that many of them have witnessed firsthand. A few fortunate children will have used a saw or hammer or screwdriver before kindergarten but in many homes they are not permitted to use tools of this kind because their parents fear they will hurt themselves. Such fear, though often exaggerated, is not completely ungrounded: saws are sharp and hammers heavy; even an expert sometimes hammers her thumb accidentally. Moreover, five-year-olds' emotions are often volatile and they cannot always control their tempers. Safety is, therefore, an important consideration in planning the woodworking area. Nevertheless, if ground rules are clearly and positively stated, if the work bench is well-supervised, and the number of participants limited, woodworking should provide no insurmountable problems and can be offered as steady fare, much like blocks or paints or the dress-up area.

Availability

This kind of consistent availability has many advantages for the program. When children know that the opportunity is always there, they are better able to wait for a turn. Moreover, under these circumstances, turns will come around more frequently and last longer. With more opportunity for practice, the children grow more quickly in skill. As with other media, children tend to need more time as they become more skillful and set themselves more complex tasks. Another advantage of availability is that children are more likely to combine woodworking with other areas of interest. For example, they might construct boats for water play, furniture for block play, props for dramatic play, percussion instruments, or enclosures for pets.

Practice

Sawing and hammering are rather difficult tasks at the beginning, so you should provide plenty of opportunity for practice and should avoid burdening the children with premature expectations for products. The cross-section of a large log provides a sturdy hammering surface for indoor or outdoor use. One child will hammer in nail after nail when she first begins, sometimes finding as much satisfaction in removing nails with the claw of the hammer as in banging them in. Another child may elaborate on the procedure as he gains proficiency, adding cloth scraps, pictures, leaves, bottle caps or anything else that can be hammered on. Still another child may create a colorful web by winding yarn around protruding nails. What is important is to respect the child's level of competence and current use of the activity. Providing good hammering surfaces, good tools (never toy ones) and plenty of large headed nails sets the stage; the child decides upon the emphasis — functional or decorative, process or product.

The same principle applies to using a saw, a screwdriver or any other tool. You can find ways to simplify these processes. You might, for example, begin some of

Simplify the process

the processes ahead of time: secure a piece of wood in the vise, partially saw through a piece of wood, or make nail holes for starting screws. Children tend to begin by practising the process — sawing for the sake of sawing — until they've gained some proficiency.

Some skills, like using a screwdriver or a carpenter's rule, will be beyond most children's ability, but they will like practising (playing) with them anyway. Besides, you may get a really experienced woodworker who will appreciate the challenge.

Wood

Use woods which are easy to work, such as white pine, poplar, cedar or spruce. Since lumber is expensive, it is well worth investigating parental and community sources of softwood scraps. Lumber yards, saw mills, construction sites and hobbyists are all potential sources, but, wherever you get it, always examine scrap wood for splinters or old nails. Wood should be available in a variety of lengths. You might want to do some preliminary cutting if wood is at a premium since some ambitious builder is bound to find a use for an entire four foot length if it is available in that form.

Tools

As for tools, hammers, a good cross-cut saw and plenty of roofing nails are basic, but it's good to provide some choice and variety. The inflexible spine of a back saw prevents buckling which is an advantage for many children. Coping saws are easier to control for cutting small pieces of wood. Eggbeater drills are intriguing to children and easier to use than a brace and bit, but some children will love the challenge of the brace and bit and the large holes they can bore with it. A level is interesting to use with carpentry or elsewhere around the room. Screw-in hooks and bolts add new practical possibilities: cup hooks for the house or a latch for the rabbit's cage.

Sandpaper

Paint

Sandpaper, both coarse and fine, is a good addition to the workbench. The transition from rough to smooth is a fascinating and delightful reward for the patient sander. You can show the children how to make a sanding block by wrapping a piece of sandpaper around a piece of wood and securing the overlap with a short roofing nail or a wood staple. Paint adds a whole new dimension to woodworking. Tempera from the easel meets most needs, but parents could probably donate small quantities of non-toxic latex paint. Keep this special paint with your own supplies for a time when the children can be closely supervised.

Storage

The reluctant teacher

The arrangement is important; as always, accessibility and clear organization contribute to the attractiveness of the activity. Shelves or wall arrangements for storing tools and supplies will help keep horizontal surfaces clear for work. Wood can be stored in sturdy crates or boxes. It is wise not to put out too large a supply at once. Small ends and pieces can be saved for the embellishment of future projects and even the sawdust can be used for animal bedding. If you are not a carpenter yourself, you might want to visit the hardware store or a carpenter friend for ideas on organization. Some teachers prefer to start slowly, perhaps with a hammering stump outdoors, and add to the woodworking possibilities gradually.

Workbench

The work surface can be a low, sturdy table with a vise or a converted sawhorse with C-clamps for anchoring the wood. A small work bench has the advantage of mobility; it can be used in the hall or outside when occasion permits. You will need to be prepared to do some careful, on-the-spot demonstrations of safe and effective use of the tools: how to secure the wood so it won't slip, or how to start a nail with gentle taps and remove one's fingers before changing to harder blows. The techniques take time to master; but, if the atmosphere in the classroom is relaxed, most children relish the challenge.

Benefits

Some children will require a considerable amount of practical help and encouragement from the teacher, but the benefits to a timid or diffident child are well worth the effort. Carpentry helps build strength, eye-hand co-ordination and spatial awareness. It demands effort and patience within the child's capacity and offers satisfyingly tangible results. It is important, too, to plan for the competent and ambitious builder by providing a variety of tools and hardware or by a visit from an adult enthusiast.

Extra help

The workbench is a place where you may often wish for extra adult help and where you may reasonably hope to get it. A parent, grandparent, older child, principal or janitor -- someone who is comfortable and experienced with tools and who you feel is good with five-year-olds — could be a great asset. Like reading aloud, helping at the workbench is a good, clear-cut job for a volunteer. You will need to familiarize the volunteer with your expectations for fives. Arrange things so that he or she can work with just a few children at a time.

Trips

A trip to a construction site will be much more meaningful to children who have used some of the tools of the trade. It will be interesting for them to compare power tools with their own tools, to note, for example, how hand saws, table saws and chain saws are all designed to cut wood despite their different forms. Children should be included in trips to the lumber yard or the hardware store to purchase supplies. They can observe how wood and tools are stored, displayed, measured and sold. Such experiences increase children's understanding of the relationships between people and places in their community: woodcutter, truck driver, lumber yard owner, hardware store proprietor, school, teacher and child are all involved in these purchases.

TRIPS

The Purpose of Trips in Kindergarten

The learning environment in kindergarten is not bounded by the room or even by the playground. Children bring with them knowledge, interest and confusion about the world beyond home and school, a world which impinges upon their own and their families' lives. Kindergarten, and indeed all school, is most effective when it does not exist as a place apart but rather helps children understand how their lives are connected with those of other people. This is not to say that five-year-olds can understand complex economic and political interrelationships. They can, however, begin to learn more about the community around them, about the work that adults do and about where they and other children live in relation to the school.

Active Participation is Important

Another important function of trips is to involve teacher and children together as purposeful investigators. Many five-year-olds have been to community places but not as active participants. They may have accompanied a busy parent on errands and never really had time or reason to look around on their own. You, yourself learn much more about the layout of a city from driving around it or figuring out bus routes to certain places than you do from being a passenger. In the same way, children learn more about the supermarket if they go there to buy vegetables for soup, choose the vegetables themselves, stand in the check-out line, pay money and receive change, than when they simply tag along after the family shopping cart. They (and you) can learn still more by visiting behind the scenes, in the back room where supplies are unloaded, inventoried and unpacked.

A Trip for Five-year-olds

The supermarket excursion mentioned above is the kind of trip that is effective with five-year-olds. It originates from the clear need of the group to obtain ingredients for their cooking project. Since the supermarket is in the neighbourhood and many children have been there before, preparation for the trip is practical and straightforward: the group needs a shopping list, money and a way to get there. Follow-up is equally clear and concrete: making soup and eating it.

The Teacher's Investigation of the Community

Because trips evolve from the context of the children's questions and activities, it is impossible for us to tell you what will be the most relevant and effective trips for your group; that will differ in different locales and with the particular individuals you teach. In order to plan good trips you will need, first of all, to enhance your own awareness of the community and of the children's connections to it. This preparation should be practical and direct.

Just as you need to build with blocks yourself in order to know what their possibilities are and what the experience is like, you have to explore the neighbourhood of the school to find out trip possibilities. In the course of your investigations you will probably uncover a host of interesting people and places, more than you could hope to visit in a year's time. All of the knowledge you gain will be useful for your understanding of the children and their parents, and if you don't visit the hospital or the fish weir this year, you can do it another.

This preliminary investigation is actually broader in scope than locating good trips. It is your own, close-up look at the neighbourhood and community. The need for this kind of investigation may be obvious to the newcomer but it is important also for the teacher who is a life-long resident of the community. You might want to examine for yourself such social and geographical questions as:

- where the school gets its supplies, and where they are stored;
- where the children live and how they get to school (Best of all, go visit);
- where most of the people in the community work;
- where people get their food and other supplies;
- how these supplies get to the community;
- what things are grown, harvested, or manufactured locally;
- what languages are spoken;
- what foods are eaten, etc.

The Value of Community Knowledge for the Teacher

It may seem to you that this kind of investigation is pushy; many of us have been schooled to curb our curiosity and we are a bit shy about asking questions of strangers or reconnoitering new territory. We urge you, however, to make the attempt. You will probably discover that people are happy to talk about their jobs and their community, to be consulted as experts in this way. You should explain that you are trying to deepen your own background knowledge of the children's community. The task is useful for its content: what you find out, ideas for trips and visitors, the connections you make with community people, as well as for the process: experiencing how it feels to be finding out in a direct and concrete way.

You cannot hope to be exhaustive in your search but each year you will discover more. Your new knowledge of how different places and people in the community are connected will deepen your awareness of and sensitivity to the children and will make you more alert to the themes and ideas that arise in their play, helping you to extend and enrich their understanding and expression. Sometimes the most appropriate enrichment will be a trip.

Trips in and around the School

Some of the best trips happen within the school itself: to inspect the furnace and heating pipes,to watch the milk truck arrive and the milk being unloaded, to fetch supplies from the office, to see the visiting tarantula in the 3rd grade classroom, or find the sign that looks like this: LIBRARY. Or they might occur within the immediate neighbourhood of the school: to the corner to watch the snowplow, to the post office to mail a letter, to the woods to gather beechnuts, to the fields to put out nesting materials for birds or to a spring pond to find tadpoles.

You probably won't find all of these possibilities near your own school, but every school site will have its special features: shops, businesses and vehicles in the city, an abundance of plant and animal life in the country, a bit of each in the suburbs. Whereas a small school may be conveniently located within easy reach of the community, facilitating frequent walking trips, a larger, more isolated school may be a kind of community unto itself. The large building, the numbers of adults and children, can be frightening and bewildering to five-year-olds at first and would remain so if unexplored. Therefore, the numerous inside trips required to help the children become more familiar with the workings of the school are well worth the time spent, both for their increased comfort and security in the school setting and for their understanding of spatial and social relationships.

What Makes a Trip Appropriate for Five-Year-Olds?

Generally speaking, the best trips for five-year-olds:

- are not too far away from the school: don't involve too much travel time;

- allow for participation: close-up watching, touching or tasting, questioning or transacting business;
- involve people and processes which children can later imitate and incorporate into their dramatic play;
- have a clear connection with the children's play, discussion and previous experience.

An effective trip for five-year-olds need not be novel or ambitious; in fact, if children lack any experiential connection with the new place it may prove meaningless to them. Thus, a trip to a historical village may leave the children slightly bewildered, whereas a visit to see the kittens at the principal's house may lead to a flurry of talk, dramatization, pictures and real learning. Many trips which fascinate adults do so because we can appreciate complex written or spoken explanations and because we have an extensive background of experience and associations to which we can assimilate the unfamiliar. But the same trips might be unsuitable for kindergarten children.

What Makes a Trip Appropriate for Your Group?

To be appropriate for children, the trip must be relevant to their concerns. These concerns may be precipitated by one of your school trips. For example, after watching the milk being delivered and talking with the milkman, some children may want to know where he gets his milk. Or, just as likely, a child may indicate by his conversation that he thinks the milkman buys milk from the corner store. This might profitably lead to a visit to a dairy farm or a milk processing plant. The trip to the store to buy vegetables could lead to much play and discussion and ultimately to visiting other stores for purposes of comparison. Or the children may be much more interested in the trucks which deliver supplies to school or store, making a visit to a truck depot or weigh station a more logical way to elicit more questions and help children make connections.

What is a fascinating and fruitful trip for one group may be merely pleasant for another. It is not always possible to know which experience will be most meaningful to children or to predict what they will learn from it. They may be much more interested in the kittens at the sheep farm than in the sheep shearing and carding experiences so carefully planned for them. This is why one cannot plan out an entire sequence of trips or themes ahead of time for a group of young children, but must work more responsively, listening to their questions and comments, and watching the themes of their play.

Trips should help children clarify and extend their ideas and this can only happen when the teacher is sensitive to what their ideas are, building upon their present conceptions, however limited, rather than attempting to lead them, step by logical step, to your own. It may make more sense to repeat a trip than to take a new one. Sometimes children only begin to formulate their ideas after the trip is over. Perhaps the discussion afterwards or the books you read together may bring up interesting points they missed. It is also effective to go back to the same place at different times of the year: to see the pumpkin field at harvest time, again under a foot of snow in January and, yet again, freshly plowed in May.

Planning a Trip

Once you have determined where to go on your trip, you will be able to make more detailed preparations. Good planning usually involves a preliminary visit on your part. You will need to check out such safety and logistical questions as how long it takes to get there, the best route, transportation needs, possible hazards and where the bathrooms are. You will need to decide the best time for the trip, which may be determined by when the animals are fed at the pet store or when the bakery van arrives at the supermarket. You will want to find our how close children can get to the action, whether it is realistic to bring the whole class or whether it might be better to take a smaller group. In your discussions with the owner of a garage, for example, you should make clear the needs and interests of your children so that you both know what to expect: not just that 'We'll go to the garage on Monday' but that you will go with ten children and one other adult, that you will arrive at 10:30 when there are not too many customers, that the mechanic will hoist a car up on the hydraulic lift and change the tires, and that the children may take some used car parts back to school with them. By pooling your expertise, the garage owner's knowledge of cars and yours of children, you can plan a trip that is interesting yet realistic in scope.

For trips beyond the school, the principal and parents should be informed well in advance. Children can take an active part in preparing for a trip. They might do such things as help compose a letter for their parents, make a shopping list for the store, make name tags to wear, bring up cartons from the storeroom for gathering apples, or take a cutting from an ailing plant in case someone at the nursery can prescribe a cure.

Safety on Trips

Because there will be many more occasions on trips than in the classroom when children will have to stay in a group and respond quickly and compliantly to your directions, you should not plan a trip away from school until you are confident that they are ready. Your observation of their response to classroom routines and to trips inside the school will give you an idea of their readiness. It will take time for them to develop a trusting relationship with you, to discover that you like and value them and also that you mean what you say. They will need time, too, to develop a sense of being a group so that they can enjoy doing things together and can be expected to stay together when necessary.

You will need to make your rules for the children's behaviour on trips clear and explicit. You yourself should think through safe procedures for riding in cars, crossing streets, keeping track of children's whereabouts, and whatever else is entailed in keeping them safe on a particular trip. You may want to practise critical things like crossing streets ahead of time.

Parents or older children who accompany you on trips need to know logistical details and procedures: where to meet, when children must stay together and when they can explore individually. It usually works well to have each adult helper take responsibility for a small group of children.

Adult Helpers and Small Groups

These adult helpers are important not only as drivers or for safety but because their presence allows the class to break into smaller groups. This makes it easier for children to see and hear, ask questions, and concentrate on what most interests them. If student teachers or parent helpers are available to you at other times, you might explore the possibility of taking a small group on a trip: to the grocery store with the three children who are cooking today, to the corner to mail a letter with one child, to a neighbour's garden to dig worms for the salamander. These trips would be ones that have special relevance to particular children, who can later report to the group. You might take other children to the same place another time or, even better, to a completely different place, one that is particularly relevant to *them*.

The Teacher's Role During the Trip

During the trip, it is the teacher who makes the connection between the children and the new place and people. You need to be sensitive to the children's excitement or confusion, to relay questions or see that the undemanding child gets a chance to try on a fireman's hat. Your questions and comments can help your guide communicate with the children in a concrete and meaningful way:

'Those boots look so big, may we lift them up to find out how heavy they are?'

'Is there really milk all the way up to the top of that tank? I wonder how many glasses of milk that would be, enough for everyone in our school?'

'Mary thinks this chicken feed looks like our hamster's food. Could she take back a little bit for him to taste?'

'Remember to show Mr. Scott the leaf from our poinsettia, Michael. Maybe he can tell you what's the matter with it.'

You are a model for the children in this situation; your interest and enthusiasm, your friendliness and respect for the guide, will be contagious.

The plans you make with the children before the trip will help them participate actively. You might plan to buy a dozen bedding plants and a bag of manure at the nursery, or to find out what calves eat or to ask the policeman whether they put little kids in jail. Such plans and questions are often the reason for taking the trip but, once in a fascinating or frightening new place, children can forget. In reminding them, you help them to learn how to interview and investigate and you also show that their individual and group concerns are important. The point is not, of course, to limit children to their original questions, but to provide a focus, a starting point.

Timing

To be significant and effective, a trip need not take very long. Short, in-school or on-grounds trips are often the best because they can occur more spontaneously and in more direct response to a question or need of the moment. Half an hour may be enough time for children to look around a fire station, whereas a trip that involves active participation — picking apples, watching some of them be pressed for cider, riding on a tractor — can profitably be longer in duration. In general, it is well to remember that five-year-olds' capacity for absorption is limited in the group setting.

Trips, however interesting, can also be stressful for children. The new place and people, the departure from their usual routines and the need to control their impulses call for a rather mature level of behaviour. This is why some children seem to lose interest in the trip right after it is over. They may seem tense, high-strung, or sleepy, more concerned with what's for lunch and who gets to hold the teacher's hand on the walk back than with talking about what they've seen. Their reaction is not an indictment of the trip but simply an indication of their limits. After a rest, or a snack or a period of vigorous outdoor play (or perhaps all three), they will be ready to relive and make sense of their new experience. This may not happen until the next day in a half-day program.

Follow-up for Trips

The follow-up for some trips is integral to the plan of the trip itself: cooking vegetables for soup, planting flowers in the garden, letting the hamster taste chicken feed. The progression is logical. Engaging in these activities strengthens the children's sense of cause and effect, time and sequence.

Discussion is very helpful to some children. The act of putting an experience into words helps them to organize and understand it. It is important in these discussions to focus on what was significant and meaningful to the children, whether or not it relates to the original purpose of the trip. Children will talk about what interested, pleased, puzzled or frightened them:

'When that big cow yelled — I jumped!'
'I saw about a hundred *apples on the ground.'*
'That fireman has the same name as my daddy.'
'I already went to that farm before 'cause my mommy works there.'
'I liked tasting the syrup best of all; it was yummy.'

This kind of talk might occur casually over snack or in a special group meeting. It could lead to a group story, a letter of thanks, a chart showing which things children like best and/or a scrapbook with photographs and drawings.

There will be relevant books, brochures, magazines, etc. which you can make available for individual browsing and group story time. Children sing songs like 'Old MacDonald Had a Farm' and 'Here Comes the Train at Last' with real gusto and enjoyment after a trip to a farm or train station.

Dramatization often enriches discussion and understanding. Five-year-olds can act out not only the motions of a person milking a cow but also the actions of a dumptruck and even a drop of sap coursing through a hose to a collecting tank! You need not say 'Suppose we all be fire engines,' but, following up on Billy's comment: 'I liked when they put up the *big, big* ladder,' you could say, 'Will you show us how that happened, Billy?'

The open-ended materials of your classroom allow children to represent aspects of their trip experience. They may draw, paint or model in clay. Blocks are particularly appropriate for this kind of representation.

In their play, children will integrate their new impressions with their previous ideas. You can enrich the process by listening and participating: 'Yes, that really does look like the hospital. Can you show me the emergency entrance?' Sometimes you add relevant props: short ladders, lengths of hose and high rubber boots. Or you may suggest a new use for existing props: 'Do you think you could use that big sheet for a stretcher?'

Trip-related play and discussion may continue for many days or for just a few. Many good and absorbing projects in kindergarten last for a relatively short time. Your perception of the children's thinking will show you how far to develop the theme and when to move on to another.

Trips are an important way for children to learn about the world beyond home and school. They evolve from children's actual questions or concerns. Your preparation and interactions with the group and with individuals will help each child take from the experience what is relevant to him at the time, whether it is detailed information, accepting the challenge of asking a question of a new adult, or finding a new subject for communication with his peers.

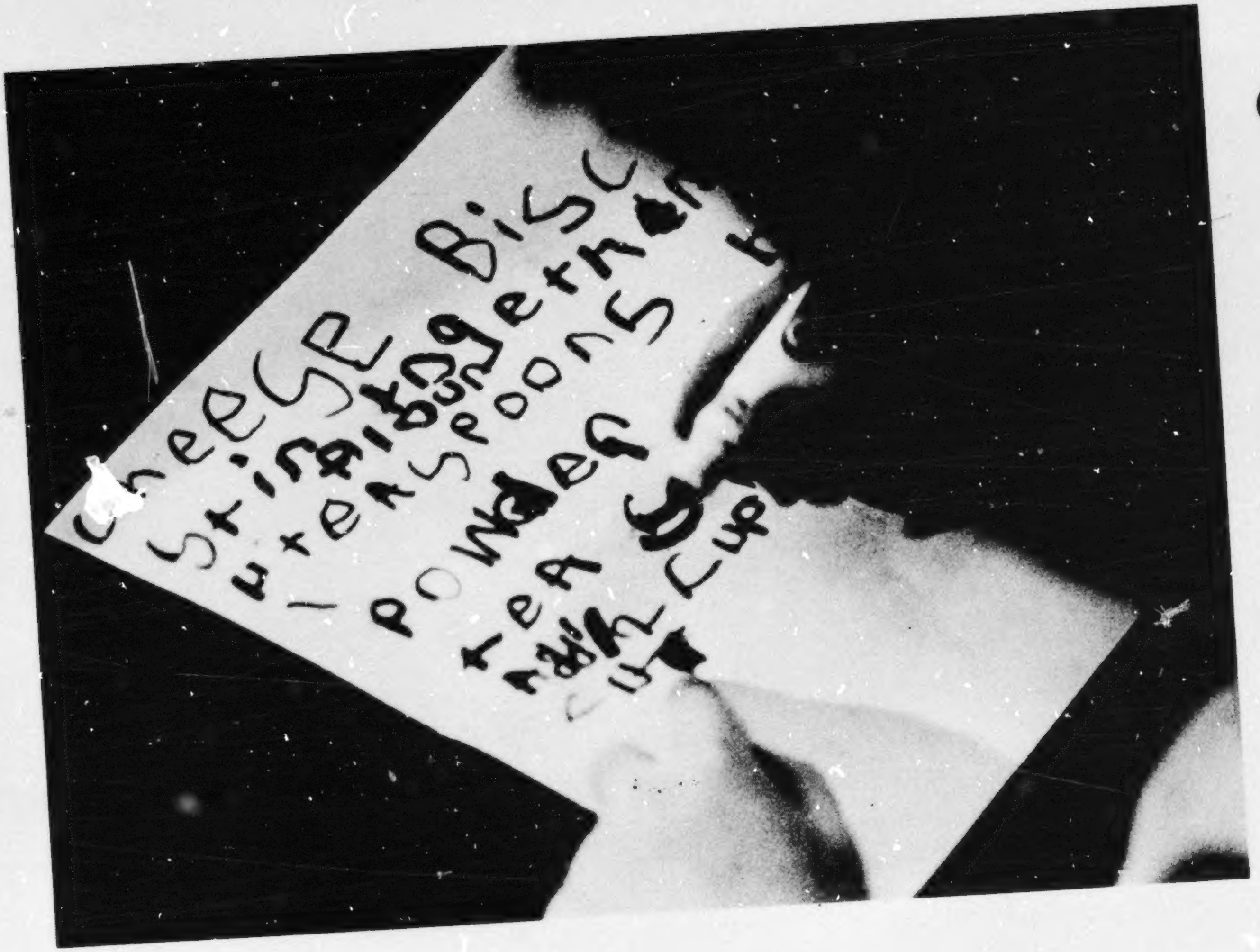
PART III

RESOURCES

This section, whilst not comprehensive, should be enough to give you some ideas to make a start in several areas. You will probably add your own notes; our binder presentation allows you to do this easily, as you share ideas and information with other teachers. We may add information in the form of loose pages from time to time.

CONTENTS

- Setting up the Classroom
    - *Equipment Lists*
    - *Resource Books*
    - *Floor Plans*
- Children's Books
- Children's Records
- Clay Suppliers
- Finger Paint and Play Dough
- Recipes
- Rhymes and Jingles
- Songs
- Finger Plays
- Stories to Tell
- Games


Cheese
Stir in Bisc
together
4 teaspoons
1 teaspoon
powder
tea
cup

SETTING UP THE CLASSROOM

Furniture

- shelving, low, equivalent to roughly 5 metres
- tables to seat 20 children
  (4 round or rectangular)
  additional small tables for aquarium, typewriter, etc.
- chairs or stools, light, stacking, enough for 20 children and teacher
- teacher storage within room: desk or drawers or shelves
- file cabinet or drawer, possibly out of kindergarten room
- easels, double sided, 2
- house play:
  - stove, sink, fridge,
  - table & chairs
  - cupboard space for utensils and doll clothes
  - storage space for dress-ups
- book racks
- comfortable furniture for book corner:
  - donated chair or couch and/or floor cushions,
  - covered foam mattress
- rug (for uncarpeted floor)
- tackable surface at child height
- carpentry bench or table, including storage for tools
- loft
- small rocking chair

Equipment

- Housekeeping:
  - -pots, pans, kettle, utensils real ones
  - -dishes cutlery, cups-even sets
  - -2 telephones
  - -cash register
  - -dress-up clothes, especially hats
    variety of fastenings, including zippers & laces
  - -mirror
  - -carriage and/or baby carrier
  - -high chair
  - -ironing board choices
  - -baby bed or cradle
  - -dolls
- Blocks:
  - -1 complete kindergarten set of unit blocks, at least 350 pieces, hardwood, sanded, unpainted
  - -trucks & vehicles, appropriately sized
  - -rubber or wooden people and animals
- Carpentry:
  - -soft wood, can be donated, lumber yard scraps, etc.
  - -tools, *real*
    - clamps and/or vises
    - saws (2)
    - hammers (2)
    - nails, large headed
    - optional: small drills, screw drivers, screws, wrench, plyers
- Books: good collection of
  - picture books
  - factual books
  - resource books
  - wordless books
  - predictable books
  - poetry, songs, rhymes
  - nonsense
  - stories

- Water: set-up: water table, extra sink or good tub or container, preferably clear, to put on table, or wading pool
  - plastic and metal containers
  - funnels
  - spoons, scoops
  - boats
  - tubing, straws, bubble pipes
  - baster, egg beaters
  - water pump
  - water wheel
- Sand: Set-up (see water)
  - containers
  - sieves, colanders, sifters
  - spoons, funnels
  - scoops, trowels
  - toy vehicles
- Provisions for Animals: aquarium and/or pet cage (and inhabitants)
  - food, bedding
- Gardening: tools, plants, seeds, bulbs, soil
- Cooking: measuring cups, bowls, spoons, etc.
- Tape recorder and blank tapes
  - music & story tapes
- Music—Percussion instruments:
  - small drum bells
  - triangles rhythm sticks
  - wood blocks maracas
  - tambourine
- Table Toys: math manipulatives, construction, Lego, peg boards, dominoes, beads parquetry blocks, coloured wooden cubes, locblocks, puzzles, board games, balance scales
- Outdoors:
  - sand: sand pit or pile or box
    rakes, hoes, shovels, buckets
  - water: sprinkler, hose
    buckets and large brushes for painting with water
  - movable: tires, crates, planks, short ladders, large blocks, etc.

  - climbing place
  - gardening plot or tubs
- Gym:
  - balls
  - hoops
  - bean bags
  - large blocks
  - climbing place

Materials

- tempera paint, wheat paste, soap powder, brushes
- clay
- paper: large newsprint, drawing paper, construction paper, printer's off-cuts, etc.
- glue, paste, spreaders
- tape
- pencils (husky & regular size)
- crayons
- markers
- stapler
- hole punch
- large blunt ended needles
- yarn and fabric (donations)
- miscellaneous collage materials

Teacher Resource Books on Space

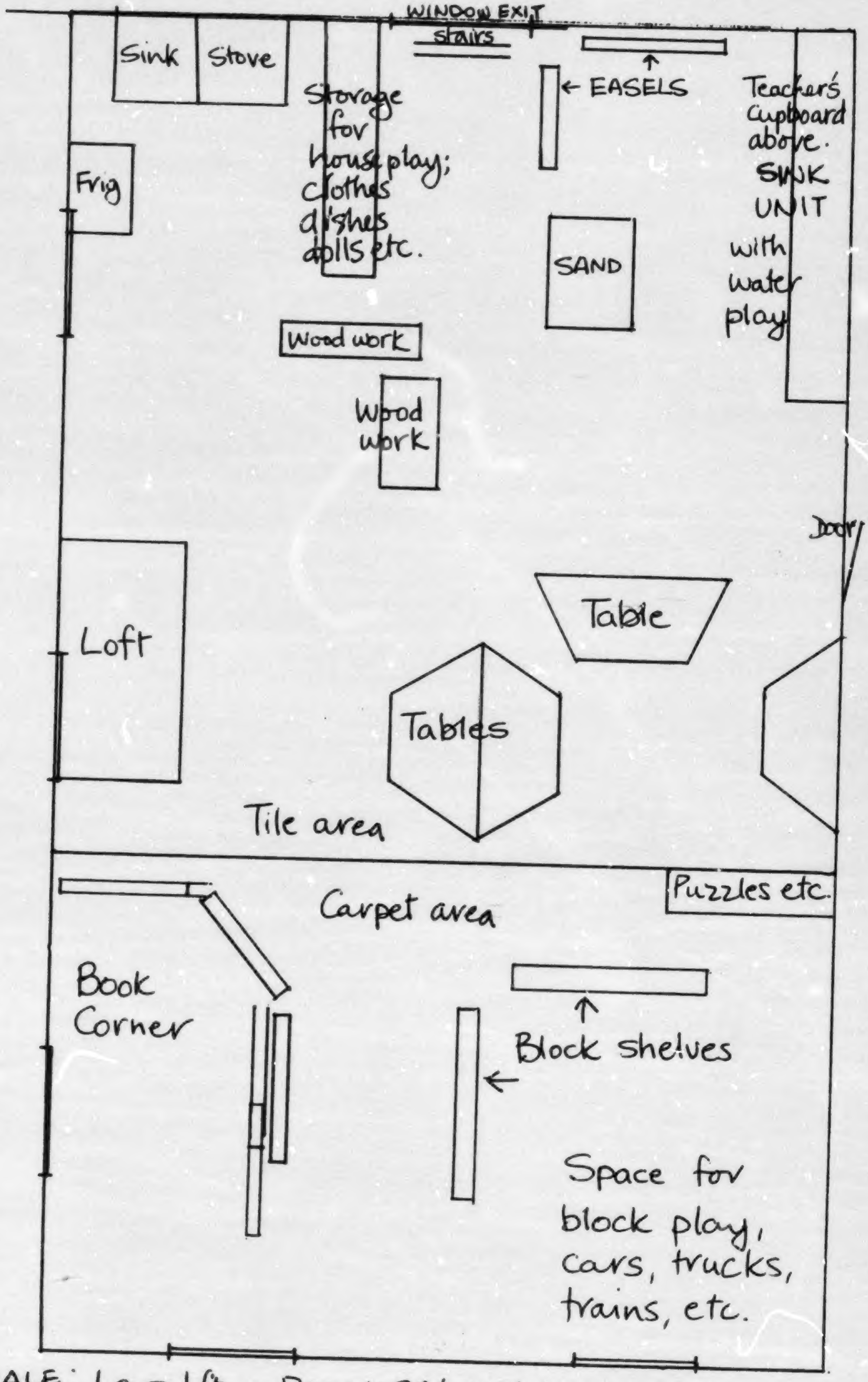
The Living-Learning Environment. Winona Graham. From *Kindergarten Portfolio*. Association of Childhood Education International.

(Out of print but copies available from Early Childhood Consultants, reprinted by permission of A.C.E.I.)

Evaluating Settings for Learning: Thelma Harms. From *Young Children,* the publication of the National Association for the Education of Young Children.

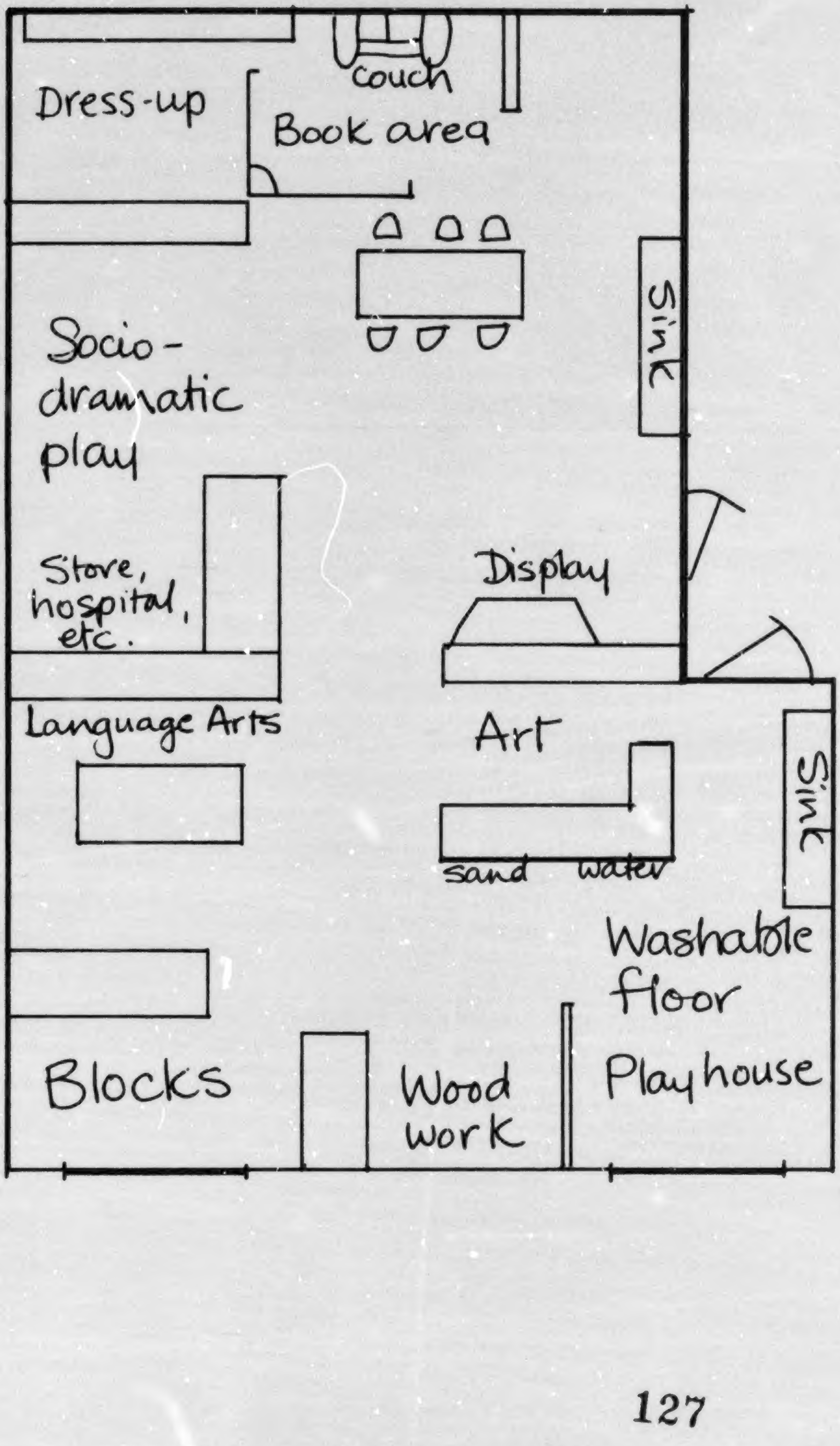
Planning Environments for Young Children: Physical Space. Sybil Krichevsky, et al. N.A.E.Y.C.

SAMPLE KINDERGARTEN FLOOR PLAN #1

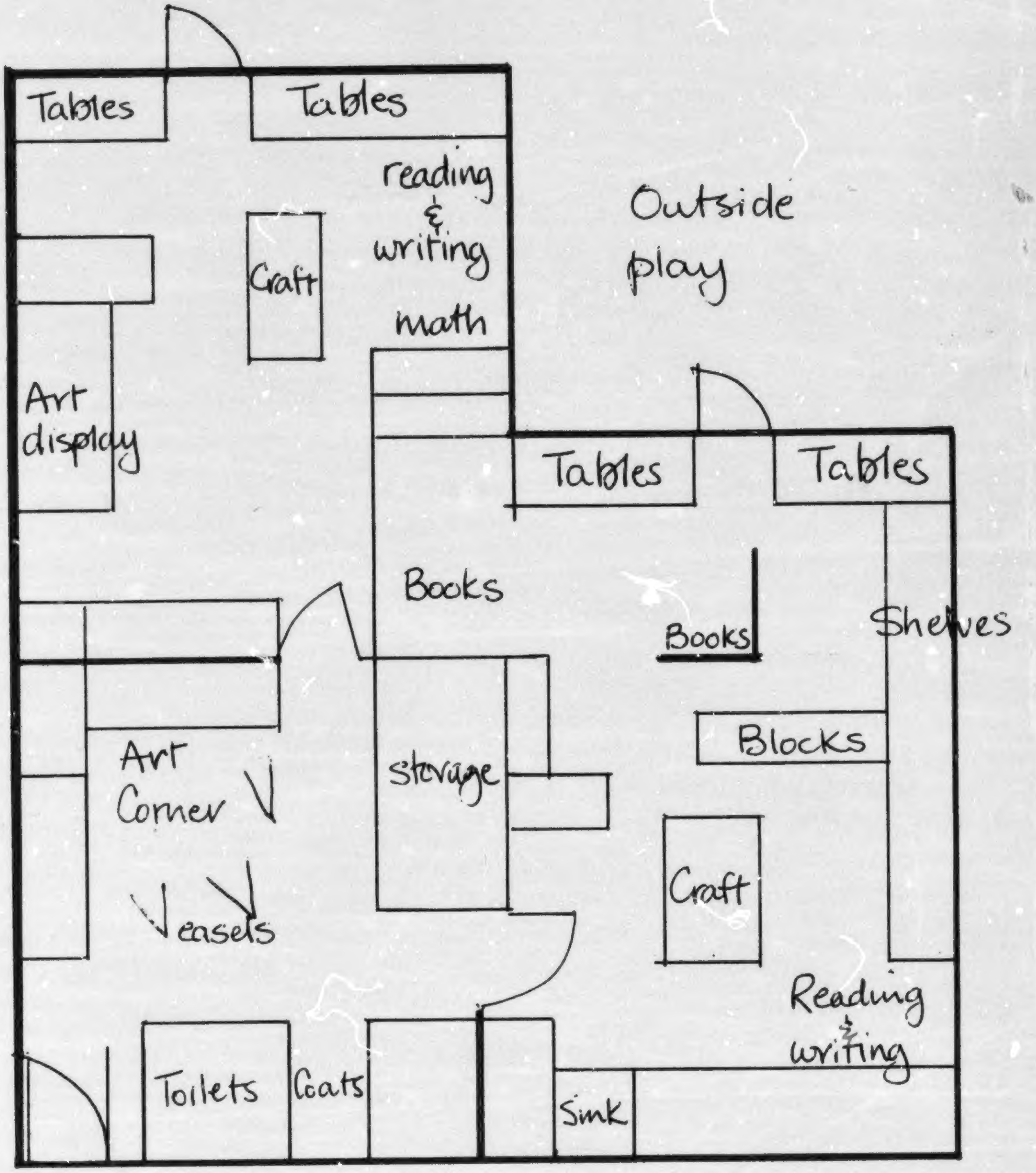

WINDOW EXIT
stairs
Sink
Stove
Storage for house play; clothes dishes dolls etc.
← EASELS
Teacher's cupboard above. SINK UNIT with water play
Frig
SAND
Wood work
Wood work
Door
Table
Loft
Tables
Tile area
Puzzles etc.
Carpet area
Book Corner
Block shelves
Space for block play, cars, trucks, trains, etc.

SCALE: 1 c. = 1 ft. ROOM = 37' × 18½' HEIGHT OF WINDOWS = 5½'

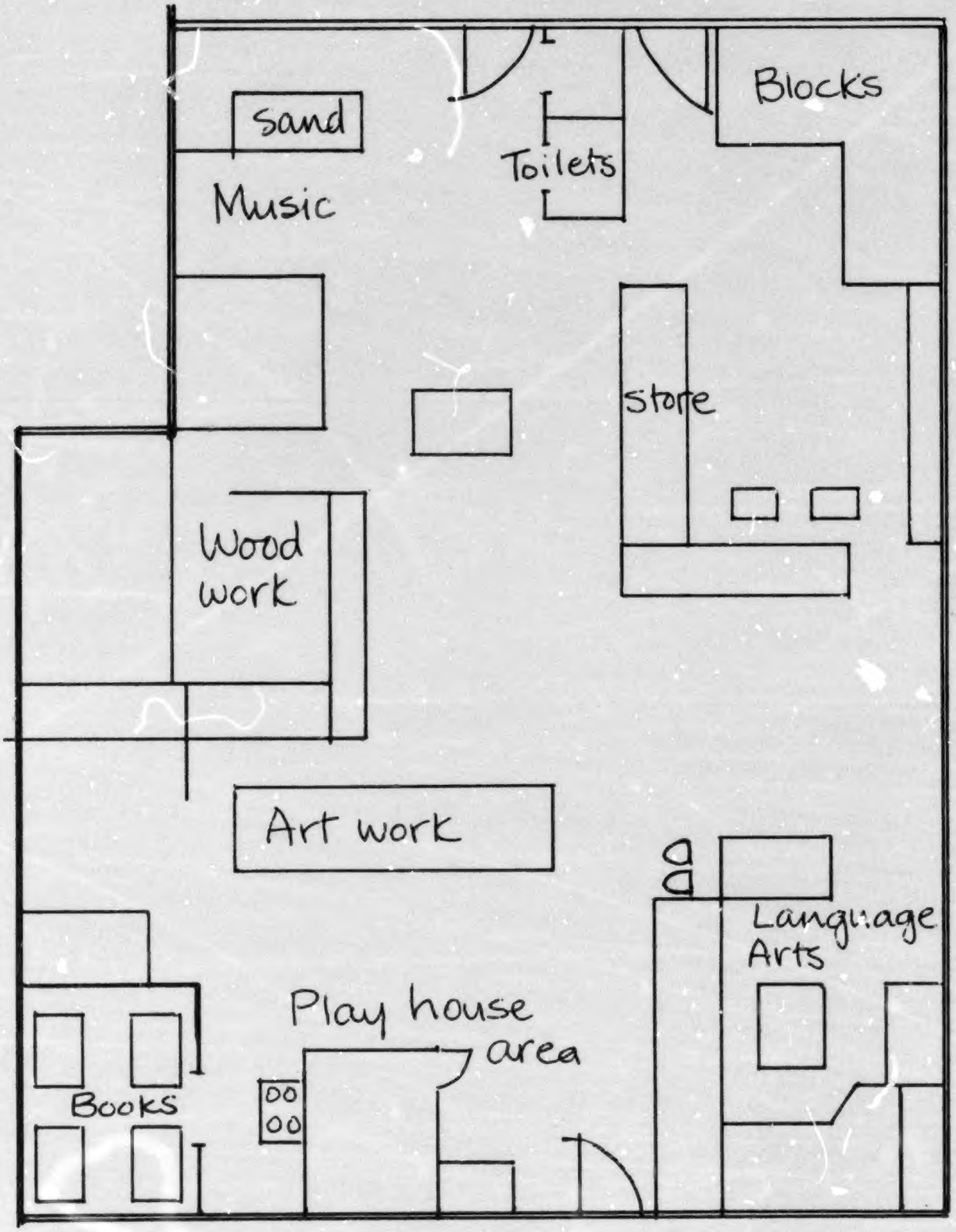
SAMPLE KINDERGARTEN FLOOR PLAN #2


couch
Dress-up
Book area
Sink
Socio-dramatic play
Store, hospital, etc.
Display
Language Arts
Art
Sink
sand
water
Washable floor
Blocks
Wood work
Playhouse

SAMPLE KINDERGARTEN FLOOR PLAN #3


Tables
Tables
reading & writing
Outside play
Craft
math
Art display
Tables
Tables
Books
Books
Shelves
Blocks
Art Corner
storage
easels
Craft
Reading & writing
Toilets
Coats
Sink

SAMPLE KINDERGARTEN FLOOR PLAN #4


Sand
Music
Toilets
Blocks
Store
Wood work
Art work
Language Arts
Play house area
Books

CHILDREN'S BOOKS

CODES

A = Author
I = Illustrator
H = Holiday
P = Problems or Issues or Special Needs
R = Reference
V = Verse & poetry
PR = Predictable reading
W = Wordless

We have marked author and/or illustrator in cases where we think you should take note of these particular people. We've written . . . *and more* in cases where we think you should look up other books by this same author or illustrator.

Consult a children's librarian, and look for Caldecott Award and Kate Greenaway Medal winners for illustration and the following award winners for text:

Canadian Library Assoc. Awards
Books of the Year for Children
Carnegie Award
Canada Council Children's Literature Prize
(text and illustration)

(A) Allard, Harry
The Stupids Step Out . . . and more
Atwood Margaret
Anna's Pet
Barton, Byron
Airport
Battaglia, Aurelius
Three Little Pigs
Bauer, Caroline Feller
(P) *My Mom Travels A Lot*
(A,I) Bemelmans, Ludwig
Madeline, Parsley
. . . and more
Bennet, Jill
(V) *Roger Was A Razor Fish and Other Poems*
Berger, Terry
(P) *Big Sister, Little Brother*
(I,A) Birmingham, John
Mr. Gumpy books . . . and more
Brockel, Ray
Storms
(I,A) Brown, Marcia
Three Billy Goats Gruff
. . . and more
(A) Brown, Margaret Wise
The Color Kittens, Wait Till the Moon Is Full, The Little Fur Family, The Little Fireman,
(P) *The Dead Bird* . . . and many more
(A) Burton, Virgina Lee
Katy and The Big Snow
(A,I) Eric Carle
(PR) *The Very Hungry Caterpillar*
. . . and more
Climo, Shirley
(H) *The Cobweb Christmas*
Cohen, Miriam
(H) *'Bee' My Valentine*
Cox, Rosamund Kidman
(R) *Flowers*
(A,I) Daugherty, James
Andy and The Lion
(A,I) De Paula, Tomie
The Hunter and the Animals
(R) *Charlie Needs a Cloak*
(H) *The Friendly Beasts*
(P) *Now One Foot, Now the Other*
(H) *Things to Make and Do for Valentines Day* . . . and more
Dunn, Phoebe and Judy
(R) *The Animals of Buttercup Farm*
(A,I) Duvoisin, Roger
Veronica
. . . and more
Emberley, Ed
(PR) *One Wide River to Cross*
(A,I) Ets, Marie Hall
In the Forest, Talking Without Words, Gilberto and the Wind . . . and more
Fassler, Joan
(P) *Howie Helps Himself*
(A) Fatio, Louise
The Happy Lion
(A) Flack, Marjorie
Ask Mr. Bear, Angus and the Ducks, Angus and the Cat . . . and more
(A) Forrester, Victoria
Oddward
(A,I) Freeman, Don
A Rainbow of my Own
(A) Freschet, Bernice
(R) *Web in the Grass, Bear Mouse*
Friskey, Margaret
(R) *Space Shuttles*
Fritz, Jean
The Good Giants and The Bad Pukwudgies
(A,I) Gag, Wanda
Millions of Cats, Gone Is Gone, The Funny Thing, Snippy and Snappy
(I,A) Galdone, Paul
What's In Fox's Sack?, The Three Billy Goats Gruff, The Little Red Hen . . . and more
(I) Gergeley, Tibor
Busy Day, Busy People
Goor, Ron and Nancy
(R) *In the Driver's Seat*
Gretz, Susanna
Teddy Bears' Moving Day
. . . and more
Hall, Donald
Ox-Cart Man
Hill, Eric
Where's Spot?
. . . and more
(A) Hoban, Russell
The Little Brute Family, The *Frances* books

(A,I) Hogrogian, Nonny
One Fine Day
(A,I) Hutchins, Pat
Changes, Changes, Don't Forget the Bacon,
Goodnight Owl . . . and more
(I,A) Ipcar, Dahlov
Hard Scrabble Harvest
. . . and more
Johnson, Crockett
Harold and the Purple Crayon
Is This Your House?
Johnson, Evelyne
The Cow in the Kitchen
(A,I) Keats, Ezra Jack
Whistle for Willie, The Snowy Day,
(P) *Peter's Chair* . . . and more
(A) Krauss, Ruth
Carrot Seed
(P.R.) *Bears, Bears, Bears*
LaMarch, Jina
(P) *Two Places to Sleep*
Lamorisse
The Red Balloon
Lapsley, Susan
(P) *I am Adopted*
Lasker, Joe
(P) *He's my Brother*
(A,I) Lenski, Lois
Mr. Small books
(A,I) Lionni, Leo
Swimmy, Let's Make Rabbits, Inch by Inch
. . . and more
Lippman, Peter
(R) *Busy Trains*
Little, Jean
(P) *My Brother is Mentally Retarded*
(A,I) Lobel, Arnold
Owl At Home, Frog and Toad books
. . . and more
MacClintock, Dorcas
(R) *A Racoon's First Year*
Mahy, Margaret
The Boy Who Was Followed Home
(A,I) Marshall, James
George and Martha books
(A) Martin, Bill Jr.
Brown Bear
. . . and more
(A,I) McCloskey, Robert
Make Way For Ducklings, Blueberries for Sal,
One Morning in Maine
. . . and more
McNaugh, Harry
(R) *Animal Babies,* (R) *The Truck Book,*
(R) *500 Words To Grow On*
McDermott, Gerald
Anansi The Spider
(A) Minarik, Elsa Holmelund
Little Bear books, *No Fighting, No Biting*
Moon, Cliff
Once Upon A Time
Munsch, Robert N.
Mud Puddle

Ormerod, Jan
Moonlight
Palmer, Jan
(R) *My First Book of Words*
(I,A) Pène du Bois, William
Bear Party
Perry, P and Lynch, M
(P) *Mommy and Daddy are Divorced*
(A,I) Petersham, Maud and Miska
(B) The Rooster Crows
The Box with Red Wheels . . . and more
Peterson, Esther Allen
Penelope Gets Wheels
Pfloog, Jan
(R) *Kittens Are Like That*
(R) *Puppies Are Like That*
Podendorf, Illa
(R) *Spiders, Animal Homes*
(A) Pomerantz, Charlotte
(V) *The Piggy In The Puddle*
(A,I) Potter, Beatrix
The Tale of Peter Rabbit, The Tale of Jeremy
Fisher, The Tale of Two Bad Mice
. . . and more
(A) Preston, Edna M.
The Temper Tantrum Book
(A) Prokofiev, Serge
Peter and The Wolf
Provensen, Alice and Martin
Old Mother Hubbard
Radin, Ruth Yaffe
A Winter Place
(A,I) Rey, H. A.
Curious George books, *Feed The Animals*
. . . and more
Rice, Eve
Goodnight, Goodnight, New Blue Shoes
Rosenberg, Maxine
(P) *My Friend Leslie*
Scarry, Richard
Postman Pig and His Busy Neighbors
. . . and more
(A) Segal, Lore
Tell Me A Mitzi
(A) Selsam, Millicent
(R) *All About Eggs, Backyard Insects,*
(R) *All Kinds of Babies*
. . . and more
(A,I) Sendak, Maurice
Where The Wild Things Are, Pierre, Chicken
Soup With Rice
(A,I) Shulevitz, Uri
Rain, Rain Rivers
Snyder, Zilpha Keatley
Come On, Patsy
Spier, Peter
(H) *Christmas!*
(PR) *The Fox Went Out On a Chilly Night*
Steig, William
Sylvester and the Magic Pebble
(A,I) Stevenson, James
That Terrible Halloween Night
. . . and more

Vincent, Gabrielle
Ernest and Celestine's Picnic
Ernest and Celestine
Viorst, Judith
(P) *The Tenth Good Thing About Barney* (death)
(P) *Alexander and the Terrible Horrible No Good Very Bad Day*
Wasson, Valentine P.
(P) *The Chosen Baby* (adoption)
Watanable, Shigeo
(R) *I Can Build A House*
Watson, Clyde
Father Fox's Pennyrhymes,
Tom Fox and The Apple Pie
(A) Watson, Jane Werner
(R) *My Body — How It Works*
Webster, Vera R.
(R) *Plant Experiments*
Weinberg, Lawrence
The Forgetful Bears
(A,I) Wells, Rosemary
Benjamin and Tulip, Noisy Nora
(I) Wezel, Peter
(W) *The Good Bird*
White
(P) *Janet At School*
(A,I) Wildsmith, Brian
All Fall Down, Birds
. . . and more
Wolf, Bernard
(P) *Anna's Silent World*
(I) Wright, Blanche Fisher
The Real Mother Goose
Zalben, Jane Breskin
(H) *Porcupine's Christmas Blues*
(A,I) Zemach, Margot and Harve
It Could Always Be Worse
(V) *Momma, Buy Me a China Doll*
Zion, Gene
Harry The Dirty Dog
(A) Zolotow, Charlotte
One Step, Two, Mr. Rabbit and The Lovely Present, (P) *William's Doll,* (P) *My Grandson Lew* (death)

CHILDREN'S RECORDS

DeCormier, Bob and Louise
Songs Children Sing From France
Riverside, Wonderland Series
RLP 1404
Woody Guthrie Children's Songs
Golden Records
LP 238
Guthrie, Woody
Songs To Grow On
Folkways FTS 31502
Holloway, Stanley
The Elephant Alphabet and others
RLP 1415
Jenkins, Ella
And One and Two
Folkways Records FC7544
Limelighters
Through Children's Eyes
RCA Victor
LSP 2512
McCurdy, Ed
Children's Songs
Tradition TLP 1027
Prokofieff, Sergei
Peter and The Wolf
Narrator: Branden de Wilde
or: Peter Ustinov
VOX PL 9280
Raffi
Baby Beluga
Troubadour TR-0010
More Singable Songs
Troubadour TR-004
The Corner Grocery Store
Troubadour TR-007
Seeger, Pete
Birds, Beasts, Bugs & Bigger Fishes
Folkways FC 7611
American Folk Songs For Children
Folkways FTS 31501
Children's Concert at Town Hall
Harmony H 30399
Strangers and Cousins
Columbia CL 2334
Sharon, Lois & Bram
Smorgasbord
Elephant Records LFN 7902
One, Two, Three, Four,
Look Who's Coming through the Door
Elephant Records LFN 8207

And other records, not especially intended for children, e.g.
Classical and Modern
Vivaldi, Mozart, Beethoven, Schubert, Brahms, Prokofieff, Stravinski, Copland, etc.
Jazz and Blues
Folk Songs and Dances
Ballet Music

CLAY: ORDERING INFORMATION

Order moist, prepared pottery clay. Earthenware will do as well as stoneware for kindergarten purposes. Prepared clay comes in amounts of around 20 kgs or 50 lbs, which should be ample.

We have listed some suppliers whose prices seem reasonable. Consider ordering jointly with another teacher or a local potter.

You can obtain large plastic pails with snug lids for storage from bulk food stores or bulk food departments of some supermarkets.

Suppliers:

Atlantic Pottery Suppliers
29 Lawnsdale Drive
Dartmouth, Nova Scotia
B3A 2N3

Cutter Ceramics
3 John Roberts Road
South Portland, Maine
04106

Moyers, The Teachers Store
700 St. George Blvd.
Moncton, N.B.
E1C 8M7
(506) 389-9683

Pottery Supply House
Box 192
Oakville, Ontario
L6J 5A2

Scholarex Atlantic, Ltd.
520 Edinburgh Drive
Moncton, N.B.
E1E 4C6

(Note: Cutter Ceramics' prices are in American dollars.)

FINGER PAINT: MAKE YOUR OWN

You will need to combine a base with a colouring agent. Adding a small quantity of a slick substance like glycerine, liquid detergent or salad oil will improve the texture and enhance the process.

Bases: flour and water or
flour, cornstarch and water or
laundry starch (*not* instant), soap flakes and water

Colour: powdered tempera or
liquid tempera or
food colouring

This version takes longer. It has a good texture and is easy to handle. Worth trying.

1 cup boiling water
1 cup cornstarch mixed with water
1 tablespoon glycerine
1 cup soap flakes
powder paint

Pour boiling water on cornstarch mixture. Stir over heat until clear consistency. Remove from heat. Add soap flakes and glycerine. When cool, colour with paint.

See also:
Art Experiences for Young Children. Naomi F. Pile. Threshold Early Learning Library. Macmillan. p. 78.

PLAYDOUGH RECIPES

1) 2 cups flour
1 cup salt
1 cup water
2-3 drops of food colouring (optional)
1 T cooking oil
This is uncooked and easy to make with children.

2) 1½ cups water
½ cup salt
boil, remove from heat and add:
2 T cooking oil
2 T alum
1 T powdered tempera paint (optional)
2 cups flour
Cool slightly and knead. Needs to be cooled before children can use it. A bit more complicated but good consistency. Tempera paint gives a vivid colour.

3) **Crackers**
2 cups whole wheat flour
pinch of salt
2 T poppy seeds
about 1 cup water
Mix, knead, roll out and cut with cookie cutters or knife.
Bake at 350° for 10-15 minutes.
Variations: substitute other whole grain flours or seeds. Add 1/2 cup shredded cheddar cheese, carrot, or apple.

RECIPES

Food preparation Here are some ideas that do not involve cooking:

- Peanut butter: shell peanuts and grind them in hand-powered grain mill.
- Sprouts: Alfalfa, lentil, sunflower (whole, shelled, unroasted), mung bean or radish seeds sprout well. Put 2-3 tablespoons in a mason jar covered with cheese cloth or sprouting wire. Rinse each day. Should be ready to eat in a few days. Serve in salads or on sandwiches or just plain. Guinea pigs and rabbits love them.
- Fresh vegetables and fruits: Children can wash and/or peel and cut them up for nutritious snacks. Celery, carrots, green peppers, radishes, apples, oranges, bananas all work well. Try less familiar ones too: avocado, turnip (lovely raw), garden peas, mangoes, etc. Serve with toothpicks or as finger foods. Try dipping soft fruit in coconut, chopped peanuts or wheat germ.
- Fruit juice popsicles: Use fresh, frozen or canned juices. Freeze in popsicle molds, ice cube trays or paper cups.
- Fresh fruit juice: Children love squeezing citrus fruits with hand juicers.
- Chives (or Parsley): Bring in a pot of fresh, growing chives to keep on the window sill. Let children snip

some with scissors to sprinkle on small portions of cottage cheese.

Cooking:

Any simple recipe can be used as a cooking project with young children. Picture recipes help the children to understand the instructions. You may want to start all recipes with 'First, wash your hands.'

Gingerbread Men

1/2 cup brown sugar
3/4 cup shortening
3 1/2 cups flour
1 egg well beaten
2 teaspoons ginger
1 teaspoon salt
1 cup molasses
2 teaspoons soda in
2 teaspoons hot water

Mix in large bowl. Roll and cut out. Bake at 350°.

Resources:

- *More than Graham Crackers, Nutrition Education and Food Preparation with Young Children,* Wanamaker, Hearn and Richarz, N.A.E.Y.C. The emphasis on the four food groups seems inappropriate but this book contains many excellent and nutritious recipes from a variety of ethnic groups as well as some interesting food projects.
- *The Complete Sprouting Cookbook,* Karen Cross Whyte, Troubadour Press, San Francisco.
- 'Food, A Medium for Learning' an excellent filmstrip from *Early Childhood Curriculum Series,* written and developed by Swedlow, Lindberg and Moffitt. Campus films.

These filmstrips are available on loan from Audio-Visual Services, Department of Education.

RHYMES AND JINGLES

Rhymes written for children are sometimes chosen for the jingly. rythmic pleasure in words. We may question whether they are really poetic in a literary sense but they are certainly an enjoyable way of using language. Traditional nursery rhymes, part of our inherited culture, should be used. Here are a few which may be new to you:

There Was a Little Turtle

There was a little turtle
And he lived in a box.
He swam in the puddles
And he climbed on the rocks.

He snapped at a minnow,
He snapped at a flea,
He snapped at a mosquito
And he snapped at me.

He caught the minnow,
He caught the flea,
He caught the mosquito —
But he didn't catch me! *Vachel Lindsay*

(This can also be sung if you know the tune.)

Spring Day

One gold sun in the clear blue sky,
Two black rooks go cawing by.
Three tall trees by the water's edge.
Four white swans in the thick, green sedge.
Five brown cows in the field beyond.
Six fat ducks on the farmyard pond.
Seven grey geese by the kitchen door.
Eight pink pigs in a pile of straw.
Nine new lambs by the old sheep rest
And ten little chicks in the black hen's nest.

SONGS

Carpenter

Carpenter, carpenter, how do you do?
Build me a cottage that's big enough for two.
Maybe I'd like it big enough for three;
Big enough for mommy and daddy and me.

Carpenter, carpenter, nail down the floor.
Frame up the windows and swing up the door.
Hammer on the chimney as quick as quick can be,
Ready for mommy and daddy and me.

Actions:

Line one: *Shake hands with a nearby singer.*
two: *Hold fingertips together to form eaves of a roof,*
Then hold up two fingers.
three: *Hold up three fingers.*
four: *Count off two fingers for mommy and daddy, and point to self.*

2nd verse:

Line one: *Mime hammering.*
two: *Draw a square with two hands; mime swing-*

ing up a door in a beckoning motion.
three: *Hammering*
four: *Repeat counting on fingers and pointing to self.*

Frog Song

Five green and speckled frogs
Sat on a speckled log
Eating a most delicious bug — yum, yum.
One jumped into the pool
Where it was nice and cool
Now there are four green frogs.

The children crouch on 'logs' and jump in the 'pool' one by one.

Six Little Ducks

Six little ducks, that I once knew,
Fat ones, skinny ones, they were too —
But the one little duck with the feather in his back,
He ruled the others with a 'quack, quack, quack'.

Down to the water they would go,
Wibble-wobble, wibble-wobble, to and fro,
But the one little duck with the feather in his back,
He ruled the others with a 'quack, quack, quack.'

Home from the water, they would come,
Wibble-wobble, wibble-wobble, ho ho hum,
But the one little duck with the feather in his back,
He ruled the others with a 'quack, quack, quack.'

Traditional Folk Songs are often good to sing with children. Learn them from records, other teachers, or remember them from your childhood. Many are in children's books. Look in your library. Margot and Harvey Zemach illustrated a delightful book featuring the traditional 'Mommy, Buy Me a China Doll.' You may borrow it, with an accompanying film strip, from the Resource Centre at the Faculty of Education, U.N.B. You will collect many songs to suit different occasions; these titles may refresh your memory.

Comin' Round the Mountain
Bought Me a Cat and the Cat Pleased Me
Jenny Jenkins
Hush Little Baby
The Cat Came Back
Nick Nack Paddy Whack
B•I•N•G•O
There Was an Old Lady Who Swallowed a Fly

Resources:

American Folk Songs for Children, Ruth Crawford Seeger, Doubleday & Co.

Sally Go 'Round the Sun, Edith Fowke, Doubleday & Co.

FINGER PLAYS

There are literally hundreds of these games using hand and finger actions. You will collect many for yourselves. Here is a start.

Five Little Monkeys

Five little monkeys climbing up a tree
(*One hand held up with wiggling fingers*)
Along came an alligator, quiet as can be.
(*A stiff straight forearm with thumb and fingers opening for the jaws of the alligator*)
'Oh' said the 1st one, 'you can't catch me!!'
(*One finger wiggled above the opening jaws*)
SNAP
(*The alligator jumps at the monkey*)

Four little monkeys climbing up a tree
(*Repeat actions and rhymes until only one monkey remains in the tree*)
'Oh' said the fifth one, 'you can't catch me!'
SNAP (*but the fifth monkey jumps high and calls—*)
'Missed me!'

Tommy Thumb

Tommy Thumb, Tommy Thumb, where are you?
(*Both hands behind back*)
Here I am, here I am! How do you do?
(*Hands brought forward and thumbs bend in bowing action*)

Peter Pointer, Peter Pointer, where are you?
Here I am, here I am! How do you do?
(*Index fingers bow and stand up again.*)
(*Billy Tail, Ruby Ring and Baby Small all take turns to bow. Finally, all the fingers are brought forward, the hands clenched and opened by turn.*)

Fingers all, fingers all, where are you?
Here we are, here we are! How do you do?

Five Little Ducks

Five little ducks went out one day
Over the hills and far away.
(*'Walk' five fingers behind your back*)
Mother Duck cried 'Quack-quack, quack-quack'
But only four little ducks came back.
(*Other hand opens and closes to represent duck's beak; hidden hand returns with four fingers showing.*)

Four little ducks . . . . etc.
(*When no ducks come back, the last verse begins 'No little ducks went out to play', Mother Duck's 'Quack-quack' is very plaintive. A brief pause of expectancy is followed by the return of all five fingers, and the last line*) —
All the five ducks came back!
(*whereupon Mother Duck, using her 'beak' counts them carefully; 1, 2, 3, 4, 5*)

Resources:

Eye Winker, Tom Tinker — Tom Glazer, pub. Doubleday.

STORIES TO TELL

Some of the stories of our youth can be brushed off and told without using a book. You will probably remember:

Red Riding Hood
The Three Bears
Jack and the Beanstalk
The Three Little Pigs
Billy Goats Gruff
The Musicians of Bremen
The Gingerbread Man
The Tale of a Turnip
etc. etc.

GAMES

Ring Games

These are best played with small groups as children get bored if they wait too long for a turn. Outdoors or in a big space you could have two or three circles of children at once.

You will probably know several singing games, such as:

Farmer in the Dell
Duck, Duck, Goose
Bluebird through My Window
Looby Loo
Tisket a-Tasket

Active Games

Indoors or out, these are fun. If you don't know them, the children probably will.

There are a few cautions to be observed.

Active games often involve fast movement and catching. Children need a lot of practice in order to be able to handle their bodies in space. Emphasize avoiding bumping into each other, and that catching should be a touch — a 'tag' — rather than grabbing hold of someone.

Make sure that there is plenty of involvement for everyone.

Keep children in action even if they have been caught. Perhaps they can help the catcher.

Keep the game session short enough to avoid children's boredom.

What's the Time, Mr. Wolf?
Mother, May I?
Red Light, Green Light
Fox and Geese
Jump the River

Charlie Over The Water

(Because in the original form this game tended to end in crashing of catcher and caught, it has been adapted.)

With ropes or chalk lines on the floor, a wide strip of water is indicated. A catcher stands in the water space. The rest of the children, each holding a beanbag, stand on the edge of the water and chant

Charlie over the water
Charlie over the sea
Charlie caught a blackbird
But he can't catch me!

Then they hurl the beanbags across the water strip, run after and pick them up. Meanwhile the catcher has caught or grabbed a bean bag, so one child ends up without one. He/she becomes the next catcher.

Go, Puss, Go

Each child, except one, has a 'home.' It can be a hoop or a chalk-drawn circle. The 'homes' should be fairly widely spaced so there is room to run between them. The child without a 'home' calls 'Go, puss, go!' and everyone runs to a new 'home.' The caller runs to a vacated 'home' whilst everyone is moving and the child who becomes 'homeless' is the new caller.